

FINAL REPORT
JULY 1997

REPORT NO. 94-28-1

ENVIRONMENTAL MONITORING
OF STORED AMMUNITION
IN SOUTH KOREA
(1995-1997)

19971112 039

THIS DOCUMENT IS UNCLASSIFIED

Prepared for:
Redstone Technical Test Center
ATTN: STERT-TE-M-CL
Redstone Arsenal, AL 35898

Distribution Unlimited



VALIDATION ENGINEERING DIVISION
SAVANNA, ILLINOIS 61074-9639



AVAILABILITY NOTICE

A copy of this report will be furnished each attendee on automatic distribution. Additional copies or authority for reprinting may be obtained by written request from Director, U.S. Army Defense Ammunition Center, ATTN: SIOAC-DEV, Savanna, IL 61074-9639.

DISTRIBUTION INSTRUCTIONS

Destroy this report when no longer needed. Do not return.

Citation of trade names in this report does not constitute an official endorsement.

The information contained herein will not be used for advertising purposes.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			UNLIMITED		
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) 94-28-1			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION U.S. Army Defense Ammunition Center		6b. OFFICE SYMBOL (if applicable) SIOAC-DEV	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State, and ZIP Code) ATTN: SIOAC-DEV Savanna, IL 61074-9639			7b. ADDRESS (City, State, and ZIP Code)		
8a. NAME OF FUNDING / SPONSORING ORGANIZATION Redstone Technical Test Center		8b. OFFICE SYMBOL (if applicable) STERT-TE-M-CL	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State, and ZIP Code) ATTN: STERT-TE-M-CL Redstone Arsenal, AL 35898			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
					WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) Environmental Monitoring of Stored Ammunition in South Korea (1995-1997)					
12. PERSONAL AUTHOR(S) Bradley J. Haas					
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Year, Month, Day) 1997 July	
15. PAGE COUNT					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP			
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
<p>The U. S. Army Defense Ammunition Center (DAC), Validation Engineering Division (SIOAC-DEV), was tasked by Redstone Technical Test Center (RTTC) to monitor environmental conditions of stored ammunition in South Korea. Ammunition monitoring was conducted at two sites from August 1995 - May 1997. This report contains data obtained by the monitoring.</p>					
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED		
22a. NAME OF RESPONSIBLE INDIVIDUAL JEROME H. KROHN			22b. TELEPHONE (Include Area Code) 815-273-8929		22c. OFFICE SYMBOL SIOAC-DEV

U.S. ARMY DEFENSE AMMUNITION CENTER
VALIDATION ENGINEERING DIVISION
SAVANNA, IL 61074-9639

REPORT NO. 94-28-1

ENVIRONMENTAL MONITORING OF STORED AMMUNITION
IN SOUTH KOREA (1995-1997)

TABLE OF CONTENTS

PART	PAGE NO.
1. INTRODUCTION.....	1-1
A. BACKGROUND.....	1-1
B. AUTHORITY.....	1-1
C. OBJECTIVE.....	1-1
D. CONCLUSION.....	1-1
2. ATTENDEES.....	2-1
3. TEST SETUP.....	3-1
4. TEST RESULTS.....	4-1
5. PHOTOGRAPHS.....	5-1
6. GRAPHS.....	6-1
7. APPENDIX.....	7-1

PART 1

INTRODUCTION

A. BACKGROUND. The U.S. Army Defense Ammunition Center (DAC), Validation Engineering Division (SIOAC-DEV), was tasked by Redstone Technical Test Center (RTTC) to monitor environmental conditions of stored ammunition in South Korea. This report contains test results of data obtained from August 1995 - May 1997.

B. AUTHORITY. This test was conducted IAW mission responsibilities delegated by the U.S. Army Armament Munitions and Chemical Command (AMCCOM), Rock Island, IL.

C. OBJECTIVE. The objective of the instrumentation was to obtain temperature and humidity data for stored ammunition located in South Korea. The data will be used for the purpose of ensuring long-term reliability of ammunition in the field.

D. CONCLUSION. As expected, igloos showed the least temperature fluctuation of the warehousing facilities instrumented. The maximum temperature recorded inside an igloo was 83 degrees Fahrenheit. Above-ground magazines followed the daily temperature pattern, occasionally exceeding the maximum daily ambient temperature. The maximum temperature recorded inside an above-ground magazine was 113 degrees Fahrenheit. One Quonset hut was instrumented during cold weather months only, and it regularly exceeded maximum daily ambient temperatures. It appeared to have the potential to provide the most hostile warehousing environment of the structure types instrumented. Humidity levels in both above-ground magazines and igloos showed less deviation than ambient humidity level with neither warehousing structure type having a clear advantage.

PART 2

AUGUST 1995 - MAY 1997

ATTENDEES

Bradley J. Haas
Mechanical Engineer
DSN 585-8336
(815) 273-8336

Director
U.S. Army Defense Ammunition Center
ATTN: SIOAC-DEV
3700 Army Depot Road
Savanna, IL 61074-9639

Quinn D. Hartman
General Engineer
DSN 585-8992
815-273-8992

Director
U.S. Army Defense Ammunition Center
ATTN: SIOAC-DEV
3700 Army Depot Road
Savanna, IL 61074-9639

William R. Meyer
General Engineer
DSN 585-8090
815-273-8090

Director
U.S. Army Defense Ammunition Center
ATTN: SIOAC-DEV
3700 Army Depot Road
Savanna, IL 61074-9639

David V. Valant
Electronics Technician
DSN 585-8988
815-273-8988

Director
U.S. Army Defense Ammunition Center
ATTN: SIOAC-DEV
3700 Army Depot Road
Savanna, IL 61074-9639

Andrew Rayment
QASAS

19th TAACOM
Taegu, South Korea

Thomas Enricco
QASAS

72d Ordnance Company
Yongchon, South Korea

Gary Hoy
QASAS

72d Ordnance Company
Taegu, South Korea

Daniel Sturtevant
QASAS

17th Ordnance Company
Uijongbu, South Korea

PART 3

TEST SETUP

Instrumentation of stored ammunition occurred at two sites within South Korea. Five locations were instrumented at the 17th Ordnance Company, located near Uijongbu from November 1995 - May 1996. Fourteen locations were monitored at Army Depot No. 2 (AD-2), located near Yongchon from February 1996 - May 1997. Ammunition stored in above-ground magazines, igloos, and Quonset huts was monitored. Table 1 (page 3-2) displays the contents of each magazine monitored. Temperature and humidity readings were obtained by ACR data loggers, which were placed with ammunition items. The data loggers recorded readings every 30 minutes. In some instances, external probes were fastened to the inner pack of ammunition items to obtain an item temperature. Approximately every 6 months, the installed data loggers were replaced and shipped back to the U. S. Army Defense Ammunition Center (DAC) for computer downloading and analysis.

TABLE 1

TEST SETUP

LOCATION	STORAGE TYPE	DODIC
17th Ordnance Company	Above-Ground Magazine	A974
17th Ordnance Company	Quonset Hut	N402
17th Ordnance Company	Igloo	D684
17th Ordnance Company	Above-Ground Magazine	N464
17th Ordnance Company	Above-Ground Magazine	D684
Army Depot No. 2	Above-Ground Magazine B-105	A165
Army Depot No. 2	Above-Ground Magazine B-133	B546
Army Depot No. 2	Above-Ground Magazine B-135	B630
Army Depot No. 2	Above-Ground Magazine B-163	N463
Army Depot No. 2	Above-Ground Magazine B-177	B632
Army Depot No. 2	Above-Ground Magazine B-182	C508
Army Depot No. 2	Above-Ground Magazine B-313	C445
Army Depot No. 2	Above-Ground Magazine B-215	N340
Army Depot No. 2	Above-Ground Magazine B-315	N340
Army Depot No. 2	Above-Ground Magazine B-335	B646
Army Depot No. 2	Above-Ground Magazine B-303	N285
Army Depot No. 2	Above-Ground Magazine B-437	D563
Army Depot No. 2	Above-Ground Magazine B-239	D541
Army Depot No. 2	Igloo B-184	C543
Army Depot No. 2	Igloo B-555	C380

Additionally, a weather station was set up at AD-2 to monitor ambient conditions. This weather station was equipped to monitor 13 channels, including ambient temperature and ambient humidity. The weather station was in operation from August 1995 - May 1997. At 6-month intervals, the storage module was replaced and returned to DAC for computer downloading and analysis.

PART 4

TEST RESULTS

Monitoring of stored ammunition at the 17th Ordnance Company occurred from November 1995 - May 1996. Five storage locations were monitored. No weather station was located at this site. Data collected by a weatherstation located at AD-2, approximately 200 miles south-southeast of the 17th Ordnance Company, were used for an ambient baseline. Table 2 below contains monthly peak temperature values for each storage location. Table 3 (page 4-2) contains monthly humidity peaks for each storage location.

TABLE 2

PEAK TEMPERATURES 17TH ORDNANCE COMPANY

	Nov 95	Dec 95	Jan 96	Feb 96	Mar 96	Apr 96
Ambient	68.6	50.4	50.4	42.8	No Data	No Data
Above-Ground Mag (A974)	57.0	40.3	39.5	47.8	58.2	61.4
Quonset Hut (N402)	72.2	59.5	62.7	65.2	85.2	83.2
Igloo (D684)	50.5	42.4	33.7	32.2	35.9	38.8
Above-Ground Mag (N464)	58.2	45.8	43.1	51.1	58.9	62.7
Above-Ground Mag (D684)	52.4	42.4	42.4	No Data	No Data	No Data

All values in degrees Fahrenheit

TABLE 3

PEAK HUMIDITY READINGS
17TH ORDNANCE COMPANY

	Nov 95	Dec 95	Jan 96	Feb 96	Mar 96	Apr 96
Ambient	100	100	100	90	No Data	No Data
Above-Ground Mag (A974)	68	67	71	71	70	60
Quonset Hut (N402)	71	72	74	73	71	67
Igloo (D684)	62	78	60	69	67	64
Above-Ground Mag (N464)	64	65	65	64	63	60
Above-Ground Mag (D684)	72	67	71	No Data	No Data	No Data

All values in percent relative humidity

Due to the limited number of storage locations and the abbreviated time span for cold weather months for monitoring at the 17th Ordnance Company, limited conclusions can be made. The Quonset hut appears to create daily peak temperatures in excess of ambient temperature and considerably greater than above-ground magazines and igloos. For the months monitored, the above-ground magazines regularly showed daily peaks that were less than the daily ambient temperatures, but greater than igloo peak temperatures. The igloo provides a more stable temperature environment, with the maximum and minimum ammunition temperature within a month for the months monitored not varying more than 10 degrees. No type of storage facility appears to have a significant advantage in regard to humidity levels.

Environmental monitoring at AD-2 was performed from February 1996 - May 1997. Fourteen warehousing locations were monitored. DODIC N340 was moved from above-ground magazine B-315 to above-ground magazine B-215 on 14 January 1997. Table 4 (page 4-3) contains the monthly temperature peaks for each storage location.

TABLE 4

PEAK TEMPERATURES

AD-2

	Feb 1996	Mar 1996	Apr 1996	May 1996	Jun 1996	Jul 1996	Aug 1996	Sep 1996	Oct 1996	Nov 1996	Dec 1996	Jan 1997	Feb 1997	Mar 1997	Apr 1997	May 1997
Ambient	43	N/A	N/A	87	91	97	100	85	N/A	59	59	55	65	69	84	88
Igloo B-555	40	46	76	73	68	80	83	74	70	59	42	42	43	48	60	63
External Probe	40	47	N/A	N/A	69	79	82	74	70	59	42	40	42	47	59	62
Igloo B-184	42	47	75	N/A	N/A	N/A	N/A	N/A	N/A	56	43	41	42	48	58	N/A
External Probe	67	69	66	N/A	N/A	N/A	N/A	N/A	N/A	53	41	40	40	46	56	N/A
Mag B-105	52	57	77	80	85	94	94	83	74	61	47	42	52	58	72	83
Mag B-133	61	63	85	91	96	105	105	91	83	67	52	47	60	68	82	98
Mag B-135	54	59	83	79	84	93	93	81	73	64	46	42	53	61	75	97
Mag B-163	46	53	71	77	83	91	91	79	73	61	44	41	50	54	72	96
Mag B-177	56	56	82	81	86	95	94	81	72	68	45	40	51	57	72	95
Mag B-182	49	55	77	79	84	93	93	81	75	62	N/A	N/A	N/A	N/A	N/A	N/A
Mag B-215	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	42	46	51	67	83
Mag B-315	50	54	80	93	99	108	108	94	85	69	46	42	N/A	N/A	N/A	N/A
Mag B-313	54	56	83	77	84	83	93	81	75	65	N/A	N/A	N/A	N/A	N/A	N/A
Mag B-335	46	53	76	77	84	82	113	105	73	66	52	44	58	65	80	86
Mag B-239	42	49	76	74	76	84	84	72	67	56	39	35	44	49	63	101
Mag B-303	51	54	77	78	85	93	93	81	73	61	N/A	N/A	N/A	N/A	N/A	N/A
External Probe	42	49	89	89	75	84	84	72	67	57	39	35	43	48	62	98
Mag B-437	47	52	77	N/A	N/A	N/A	N/A	N/A	N/A	52	42	38	48	54	69	84
External Probe	44	50	89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

All value in degrees Fahrenheit

Peak igloo temperatures were generally lower than both ambient and above-ground magazine peak temperatures. Igloos appear to be particularly effective during the summer months. Above-ground magazines had peak temperatures nearer to ambient.

Table 5 (page 4-4) contains monthly percentages of the readings in excess of 70 degrees, 80 degrees, and 90 degrees, respectively.

TABLE 5

TEMPERATURE DISTRIBUTION

AD-2

DATES	AMBIENT			ABOVE-GROUND MAGS			IGLOOS		
	70	80	90	70	80	90	70	80	90
Feb 96	0	0	0	0	0	0	0	0	0
Mar 96	N/A	N/A	N/A	0	0	0	0	0	0
Apr 96	N/A	N/A	N/A	2.2	0.2	0	0	0	0
May 96	23.2	4.6	0	15.2	1.3	0.1	0	0	0
Jun 96	37.0	9.6	0.3	46.4	5.6	0.7	8.4	0	0
Jul 96	62.8	30.8	8.9	69.8	37.2	6.0	53.0	5.4	0
Aug 96	76.2	31.0	9.8	95.5	51.4	6.6	97.9	8.2	0
Sep 96	31.9	7.3	0	49.6	4.9	0.3	34.8	0	0
Oct 96	N/A	N/A	N/A	45.4	4.8	0.2	49.4	0.1	0
Nov 96	0	0	0	1.0	0	0	0	0	0
Dec 96	0	0	0	0	0	0	0	0	0
Jan 97	0	0	0	0	0	0	0	0	0
Feb 97	1.4	0	0	0	0	0	0	0	0
Mar 97	5.2	0	0	1.0	0	0	0	0	0
Apr 97	29.6	6.9	0.4	20.6	2.9	0.1	1.0	0	0

All values in percent of readings

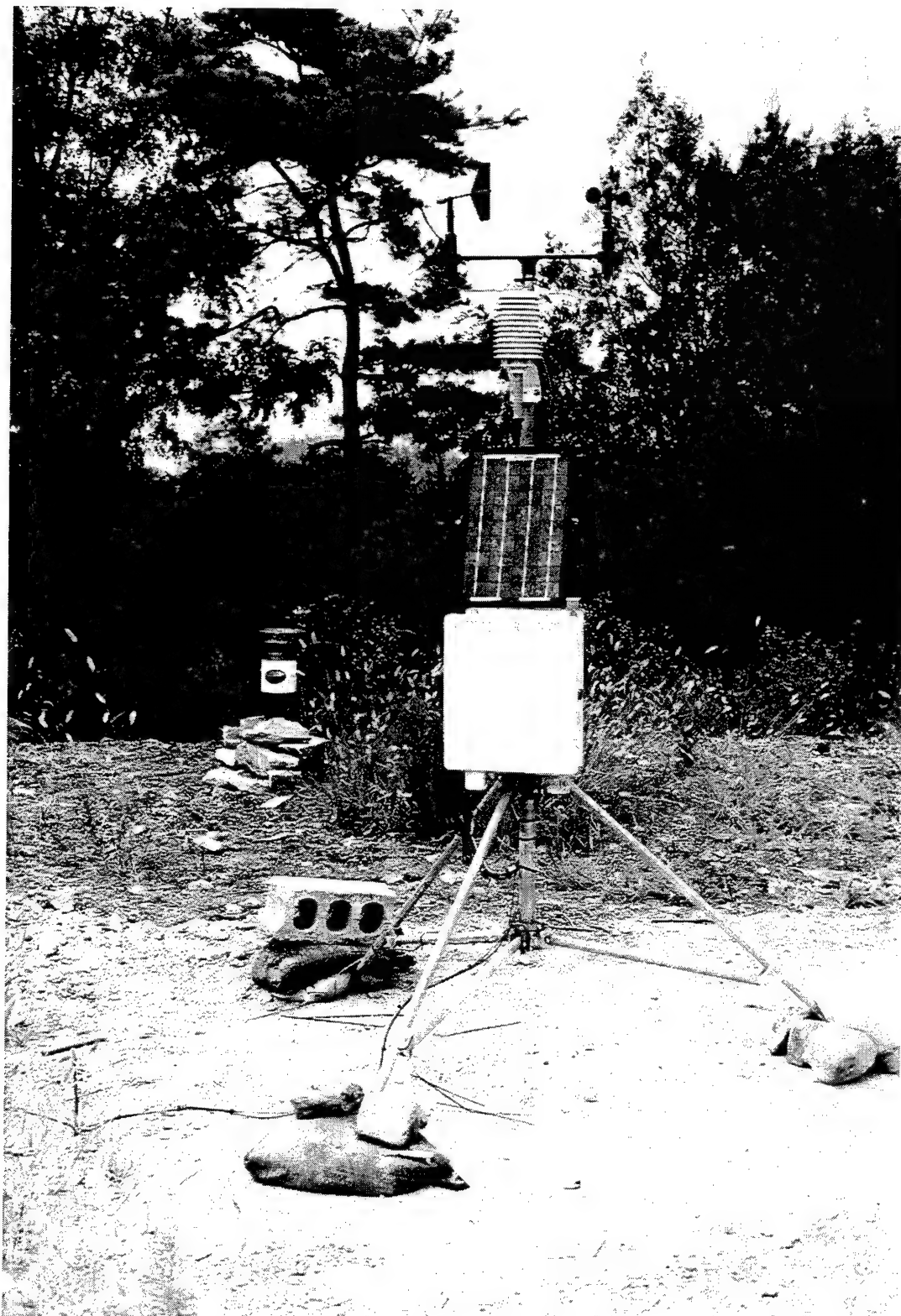
Above-ground magazines consistently show higher percentages of temperature readings in excess of 80 and 90 degrees than temperature readings in igloos. Above-ground magazines follow ambient temperatures more closely with larger daily differences in temperature extremes. Igloos show less deviation in temperature, as igloo temperatures never exceeded 90 degrees during the test period.

Monthly histograms of humidity distribution can be found in part 7 of this report. Humidity levels inside above-ground magazines were generally between 40 and 90 percent. The ambient humidity generally ranged from 20 to 100 percent. Humidity levels in igloos generally ranged from 50 to 80 percent prior to November 1996. Occurrences of 100 percent humidity existed in both above-ground magazines and igloos, but with far less frequency than occurred as ambient.

After November 1996, humidity levels in igloos generally ranged from 10 to 30 percent. The lower humidity readings coincide with a data logger swap out at each igloo. Above-ground magazine B-335 experienced similar drop in its humidity levels. The humidity sensors of the data loggers producing these lower temperatures may not have been operating properly.

PART 5

PHOTOGRAPHS

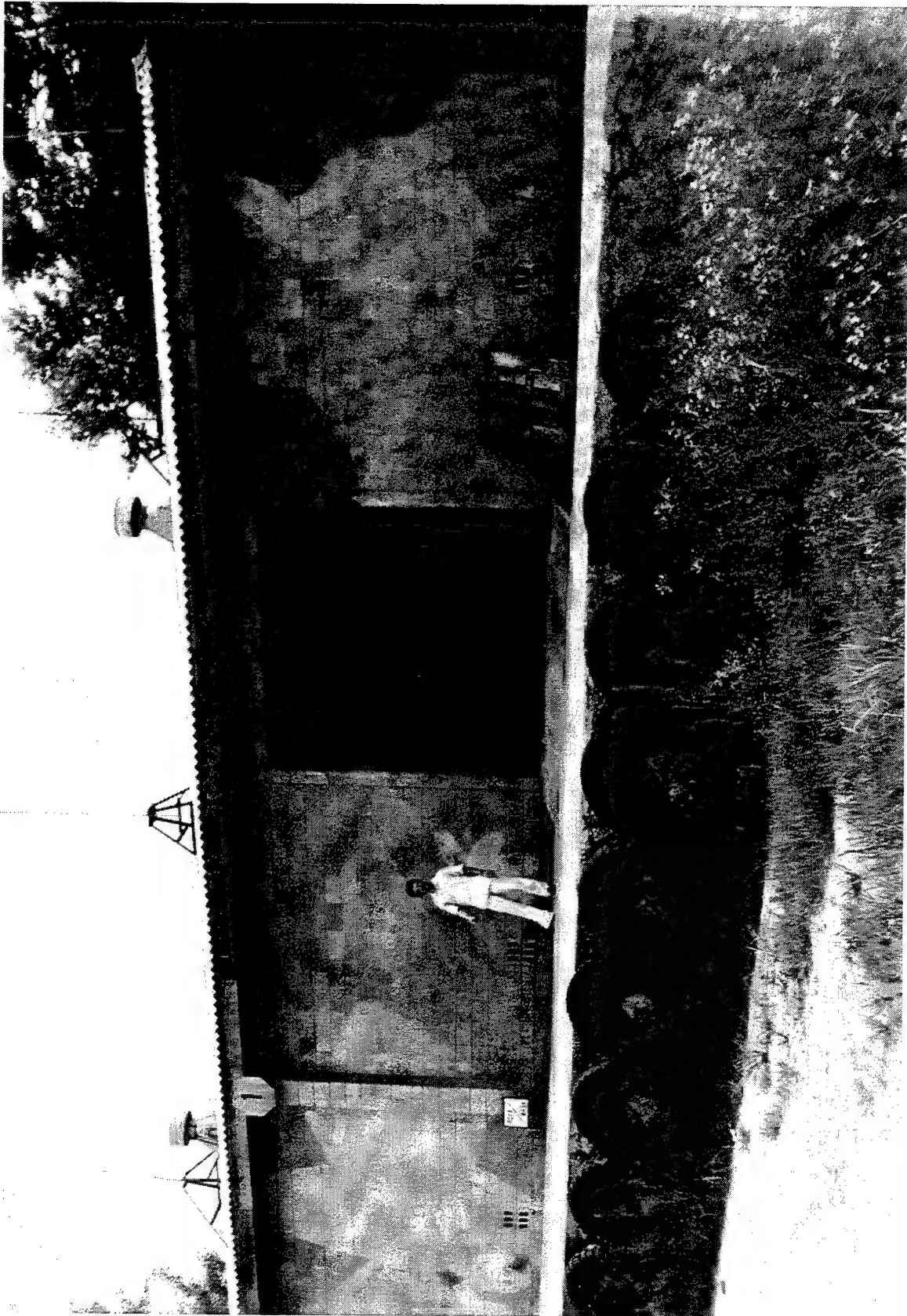


	U.S. ARMY DEFENSE AMMUNITION CENTER	
--	--	--

PHOTO NO. AO317-SCN-95-31-2676. This photo shows the weather station setup located at AD-2.		
---	--	--



	U.S. ARMY DEFENSE AMMUNITION CENTER	
PHOTO NO. AO317-SCN-95-31-2693. This photo shows a typical igloo.		



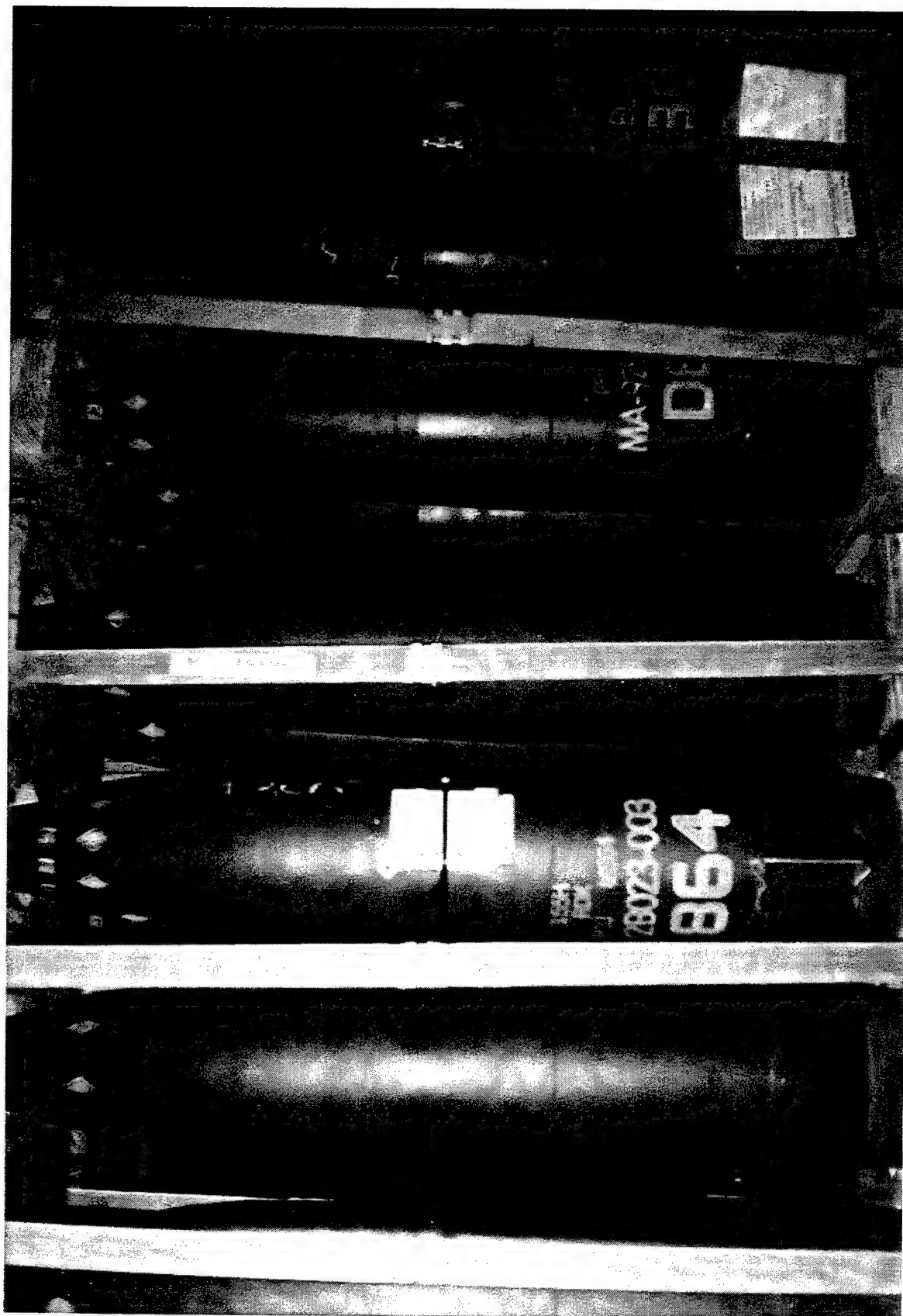
U.S. ARMY DEFESE AMMUNITION CENTER

PHOTO NO. AO317-SCN-95-31-2630. This photo shows a typical above-ground magazine located at AD-2.



U.S. ARMY DEFENSE AMMUNITION CENTER

PHOTO NO. AO317-SCN-95-31-2711. This photo shows a typical Quonset hut.



U.S. ARMY DEFENSE AMMUNITION CENTER

PHOTO NO. AO317-SCN-95-31-2639. This photo shows an installed ACR data logger on DODIC D864.

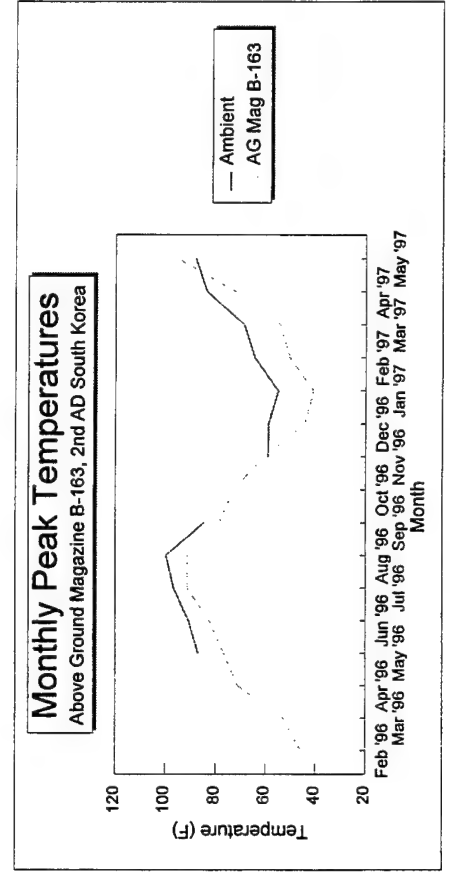
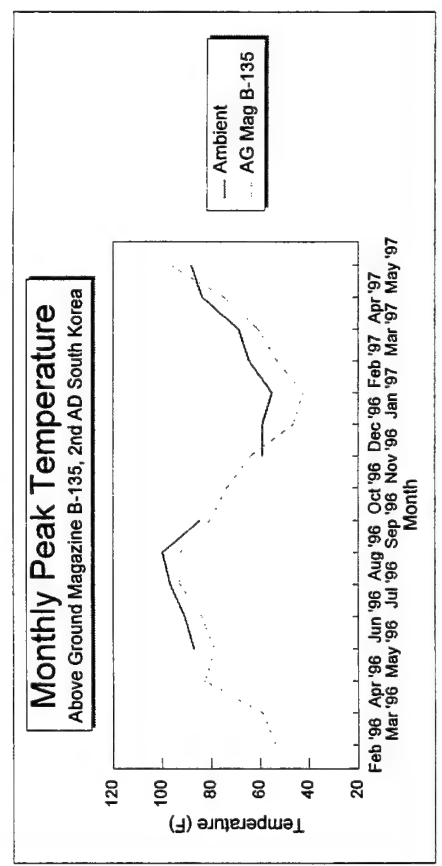
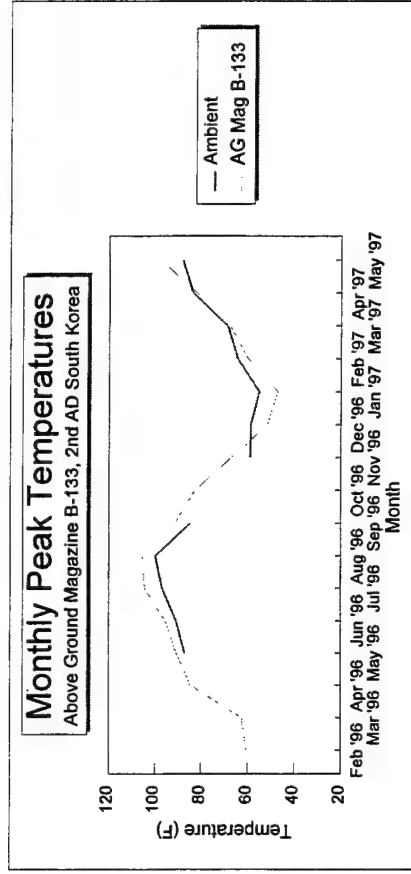
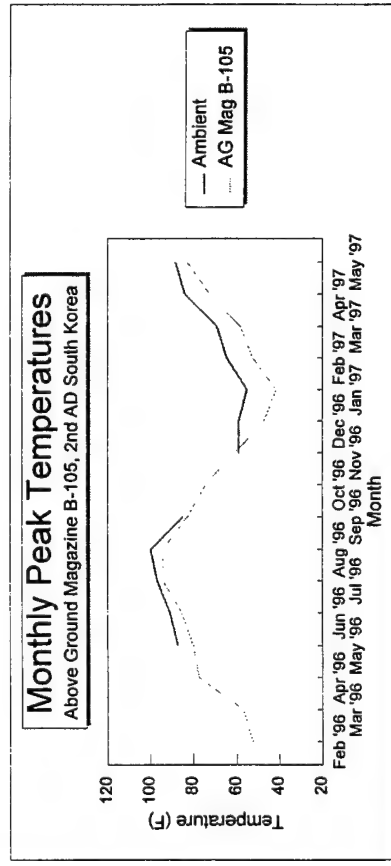
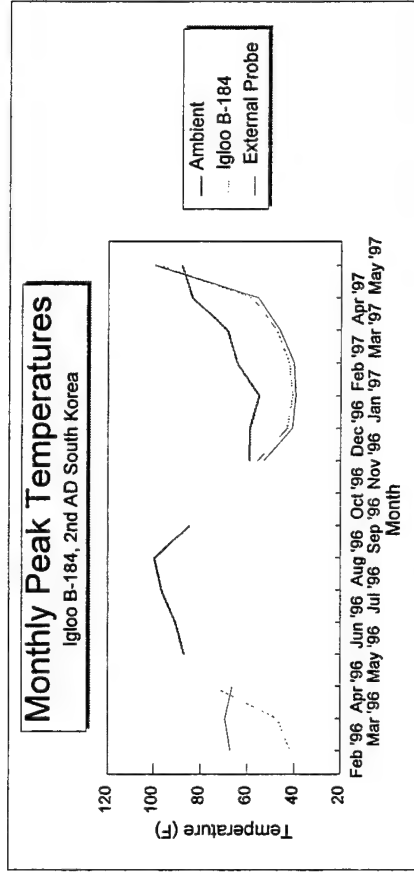
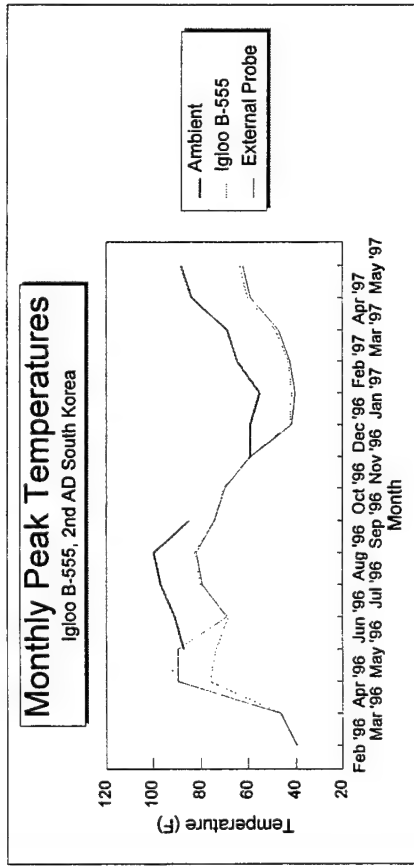


U.S. ARMY DEFENSE AMMUNITION CENTER

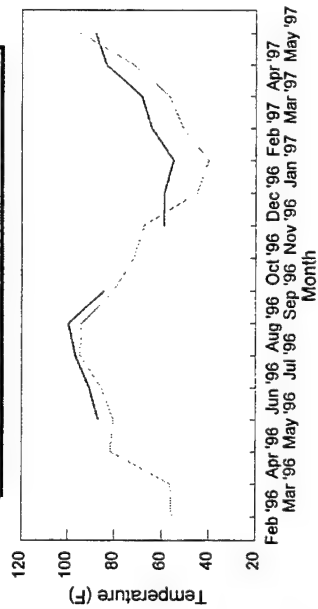
PHOTO NO. AO317-SCN-95-31-2632. This photo shows an ACR data logger installed on top of a pallet of DODIC A974. The pallet is stored in an above-ground magazine.

PART 6

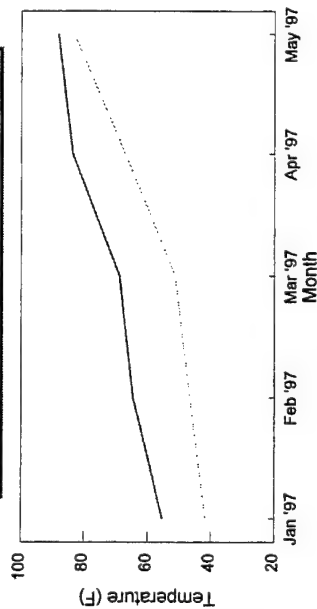
GRAPHS



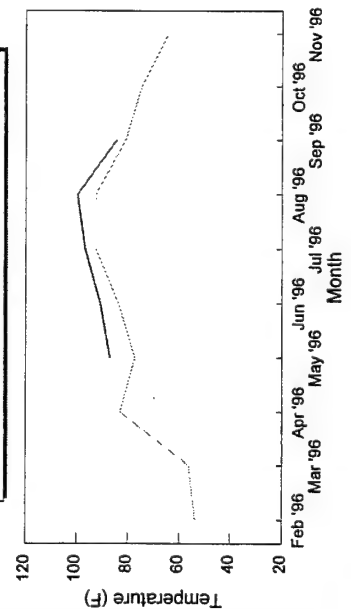
Monthly Peak Temperatures Above Ground Magazine B-177, 2nd AD South Korea



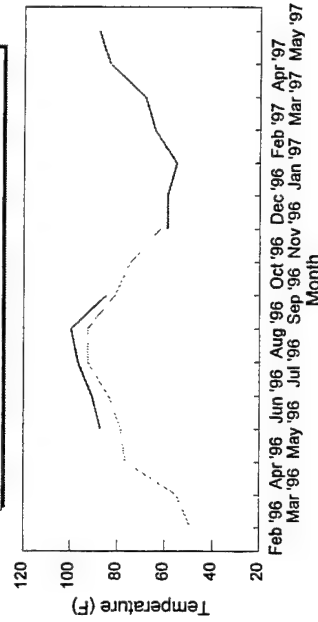
Monthly Peak Temperatures Above Ground Magazine B-215, 2nd AD South Korea



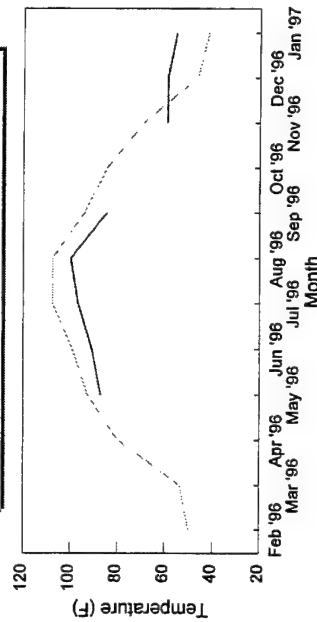
Monthly Peak Temperatures Above Ground Magazine B-313, 2nd AD South Korea



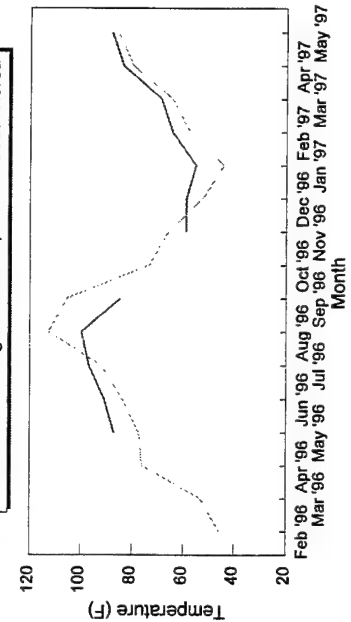
Monthly Peak Temperatures Above Ground Magazine B-182, 2nd AD South Korea



Monthly Peak Temperatures Above Ground Magazine B-315, 2nd AD South Korea

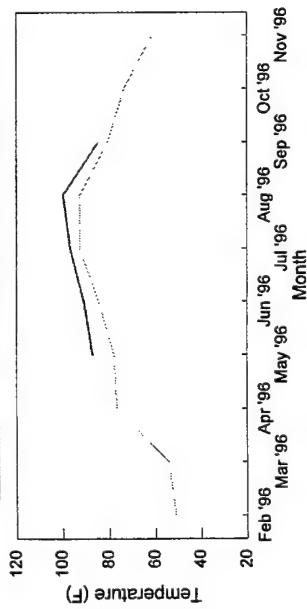


Monthly Peak Temperatures Above Ground Magazine B-335, 2nd AD South Korea



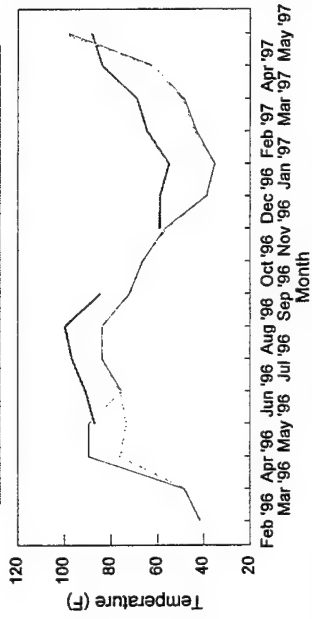
Monthly Peak Temperatures

Above Ground Magazine B-303, 2nd AD South Korea



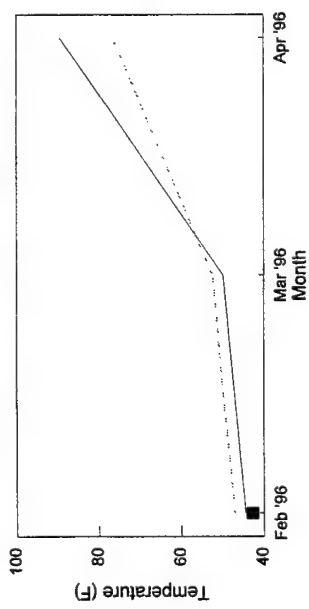
Monthly Peak Temperatures

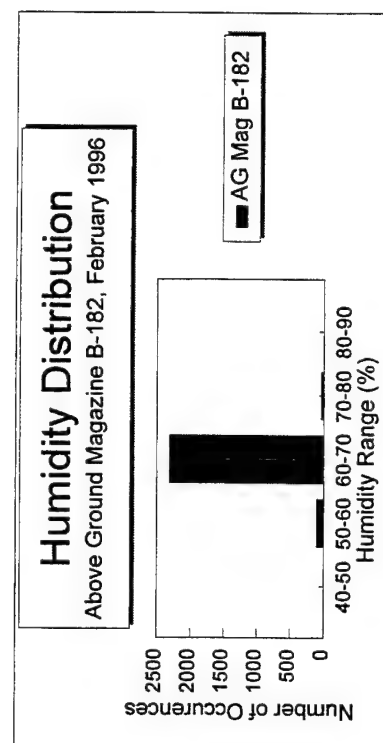
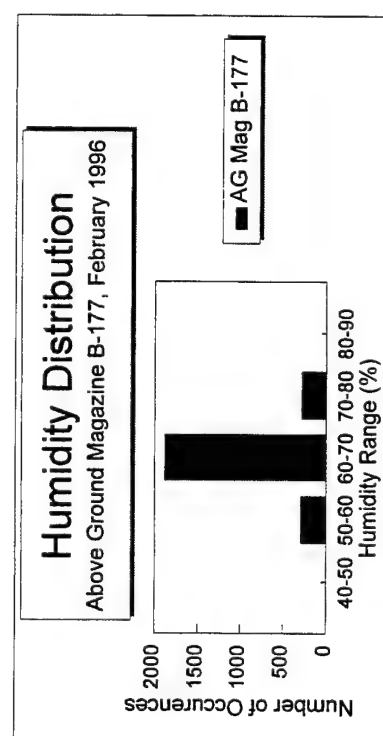
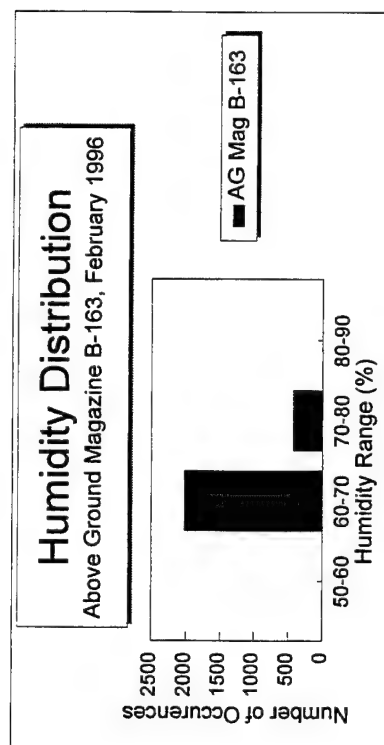
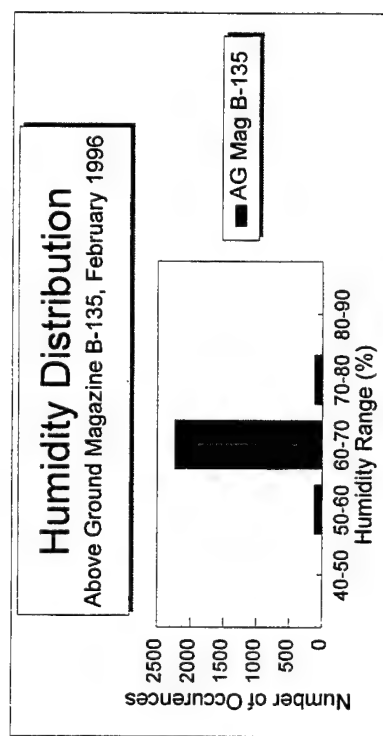
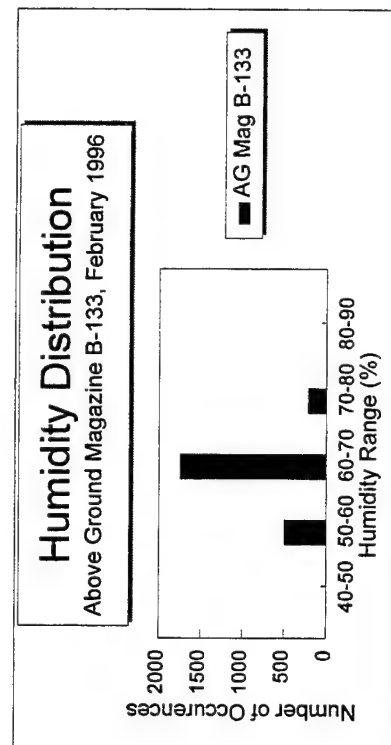
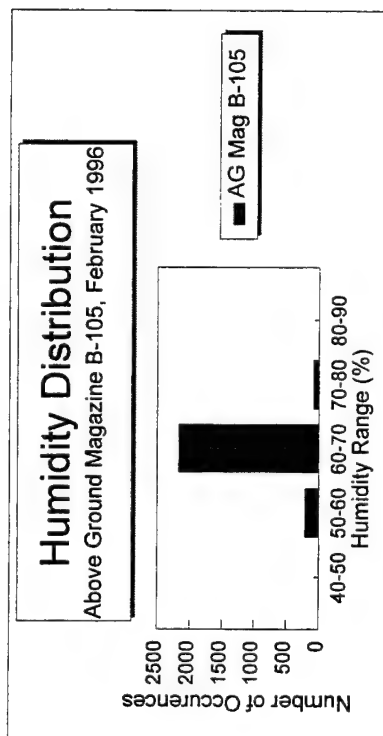
Above Ground Magazine B-239, 2nd AD South Korea



Monthly Peak Temperatures

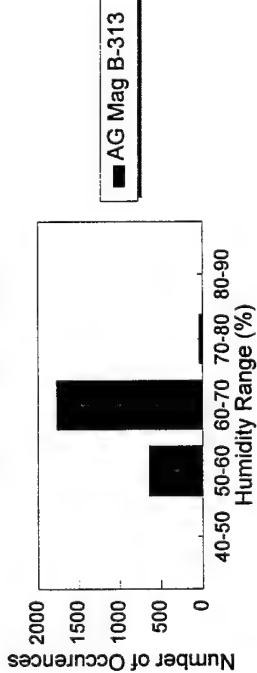
Above Ground Magazine B-437, 2nd AD South Korea





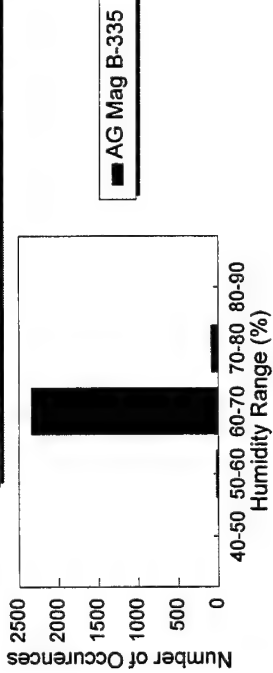
Humidity Distribution

Above Ground Magazine B-313, February 1996



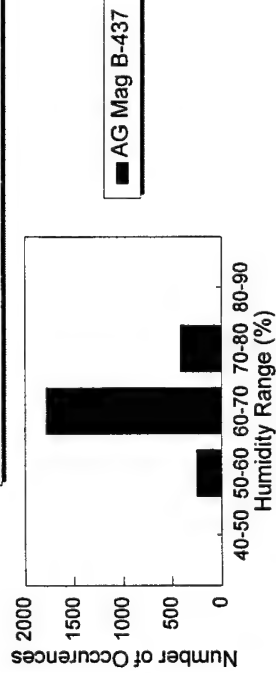
Humidity Distribution

Above Ground Magazine B-335, February 1996



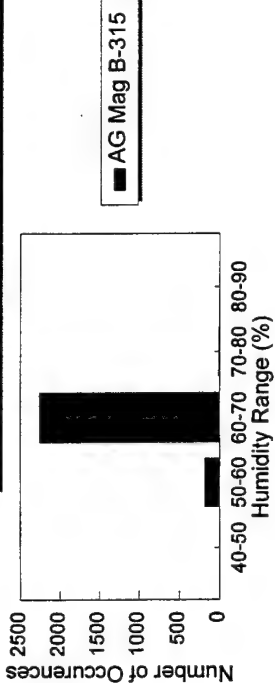
Humidity Distribution

Above Ground Magazine B-437, February 1996



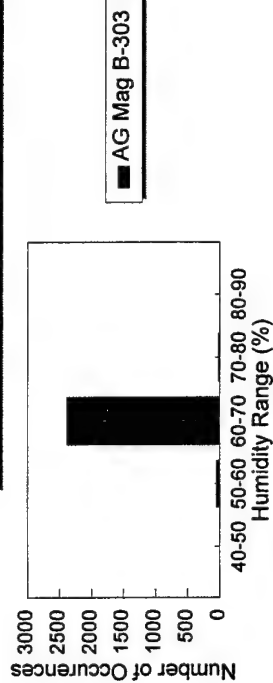
Humidity Distribution

Above Ground Magazine B-315, February 1996



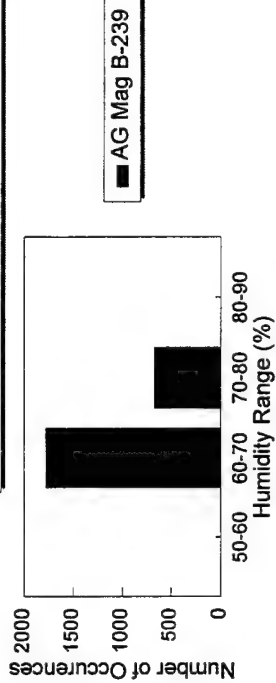
Humidity Distribution

Above Ground Magazine B-303, February 1996

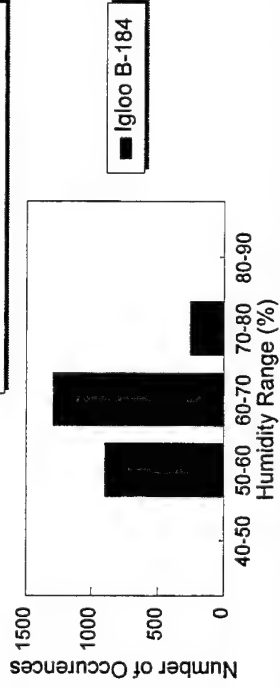


Humidity Distribution

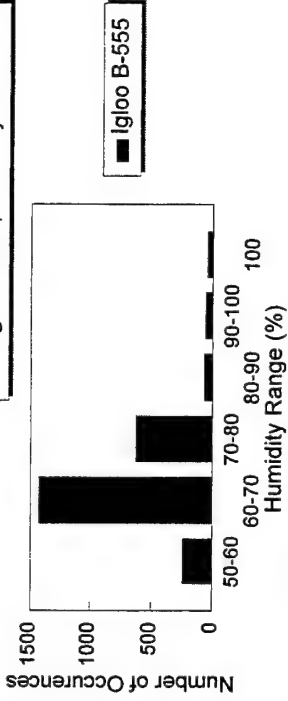
Above Ground Magazine B-239, February 1996

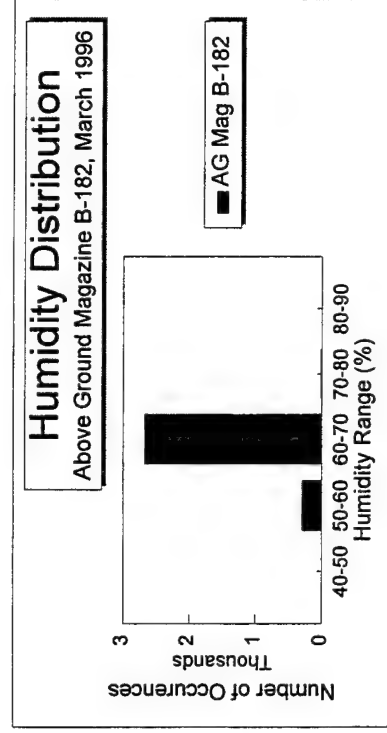
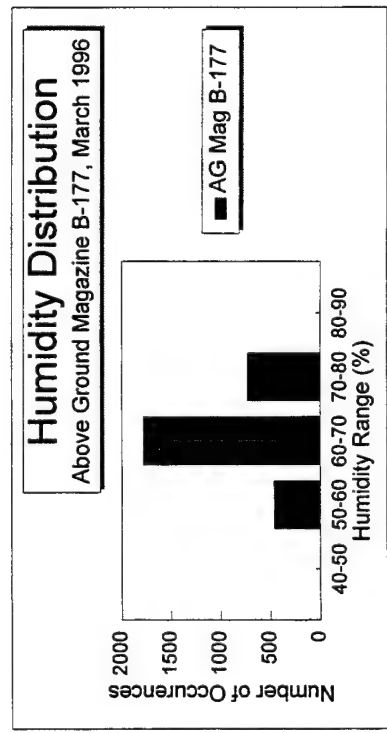
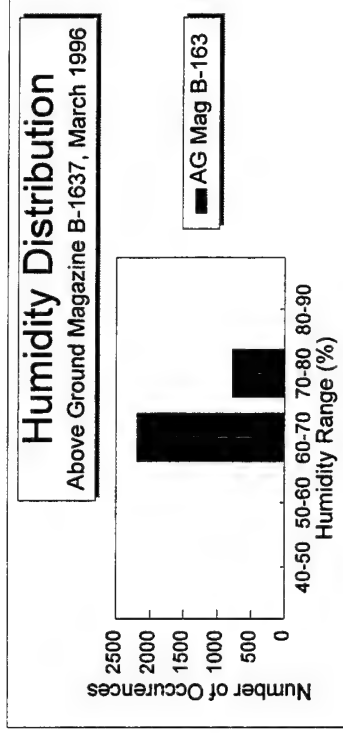
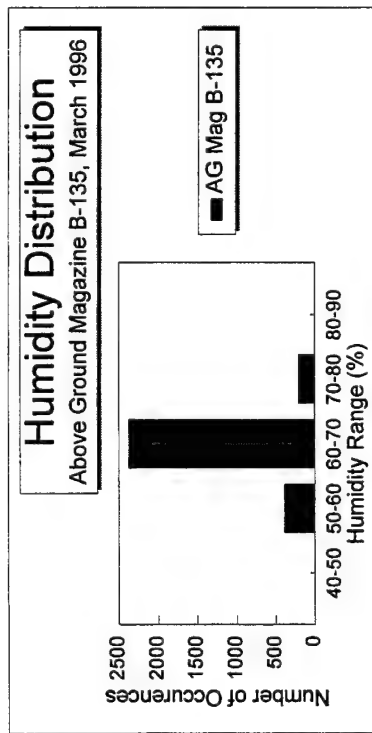
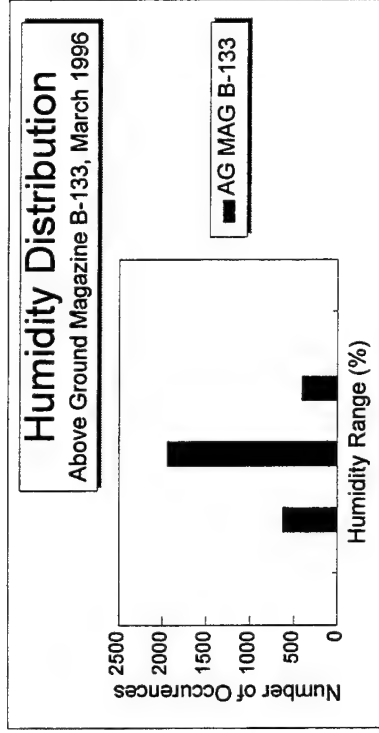
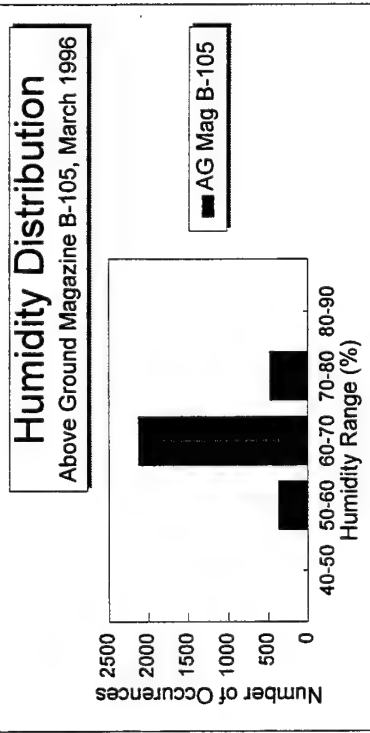


Humidity Distribution
Igloo B-184, February 1996



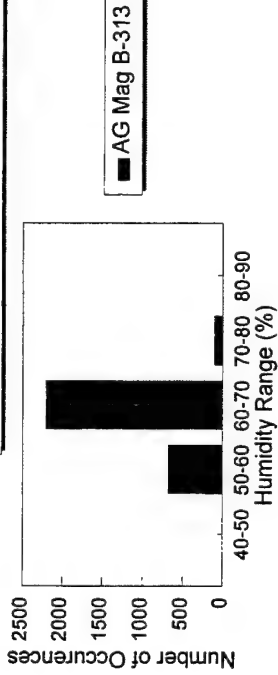
Humidity Distribution
Igloo B-555, February 1996





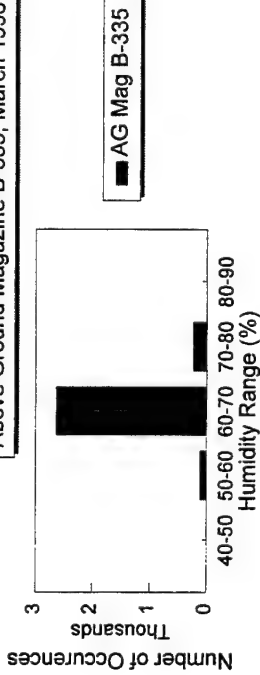
Humidity Distribution

Above Ground Magazine B-313, March 1996



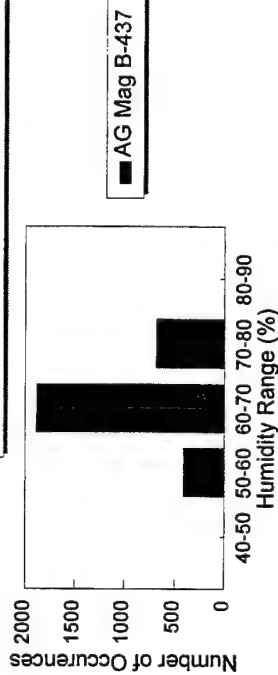
Humidity Distribution

Above Ground Magazine B-335, March 1996



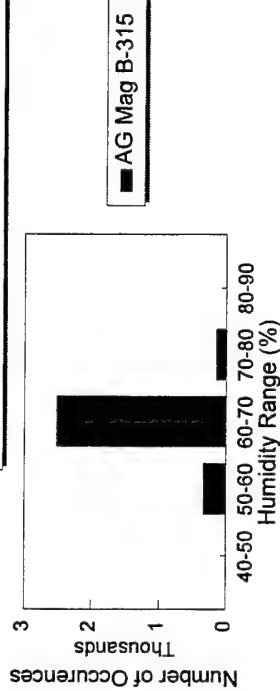
Humidity Distribution

Above Ground Magazine B-437, March 1996



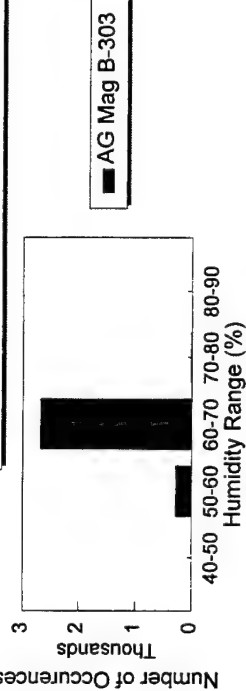
Humidity Distribution

Above Ground Magazine B-315, March 1996



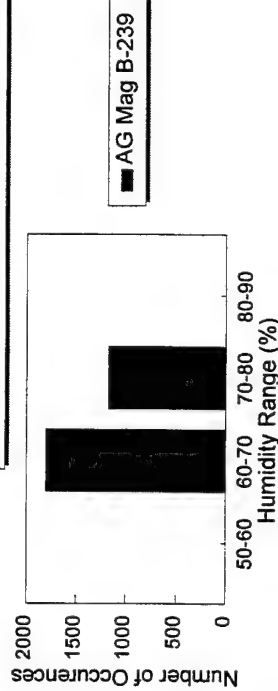
Humidity Distribution

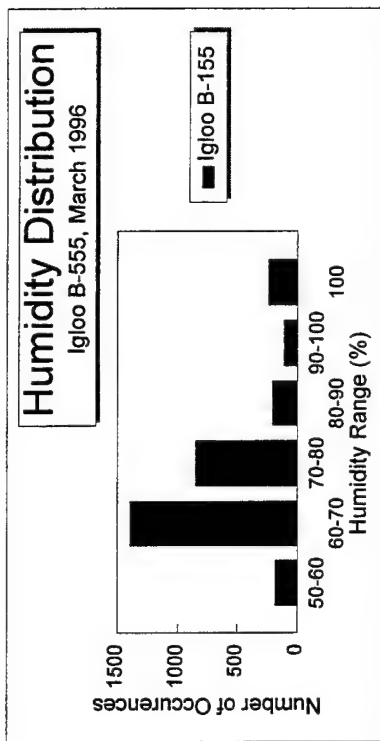
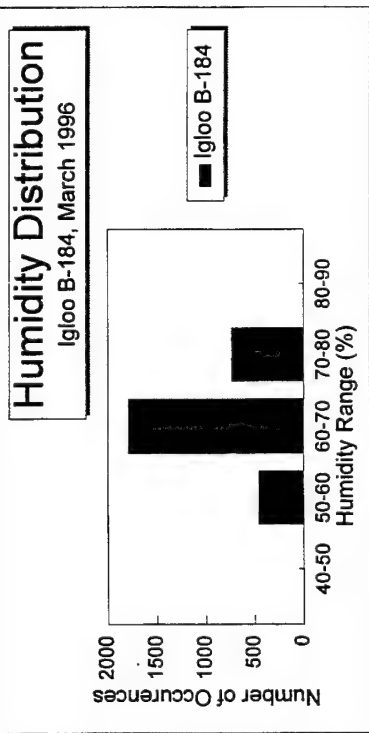
Above Ground Magazine B-303, March 1996



Humidity Distribution

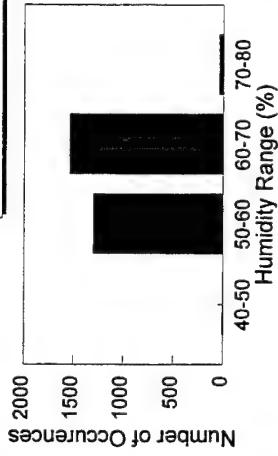
Above Ground Magazine B-239, March 1996





Humidity Distribution

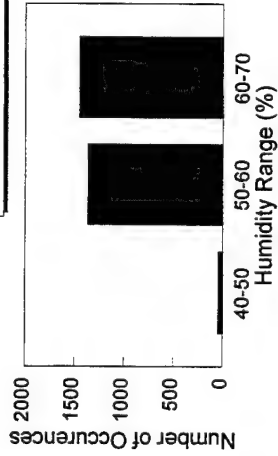
Above Ground Magazine B-105, April 1996



AG Mag B-105

Humidity Distribution

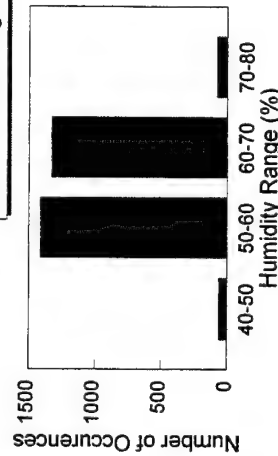
Above Ground Magazine B-135, April 1996



AG Mag B-135

Humidity Distribution

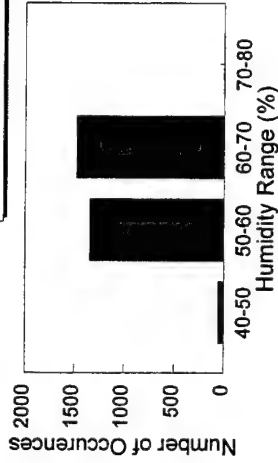
Above Ground Magazine B-177, April 1996



AG Mag B-177

Humidity Distribution

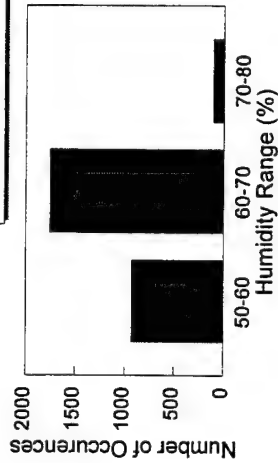
Above Ground Magazine B-133, April 1996



AG Mag B-133

Humidity Distribution

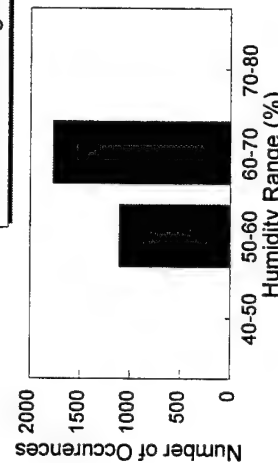
Above Ground Magazine B-163, April 1996



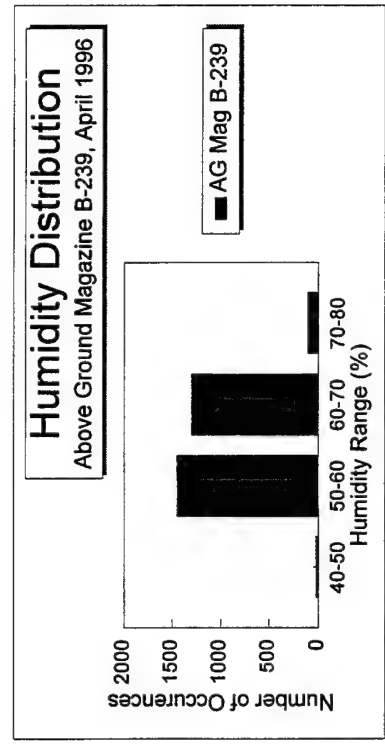
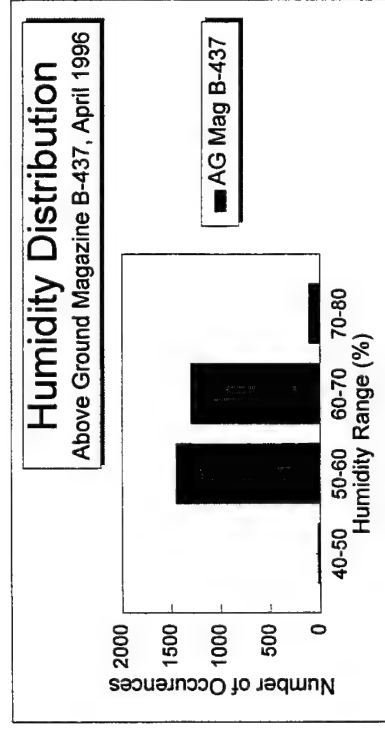
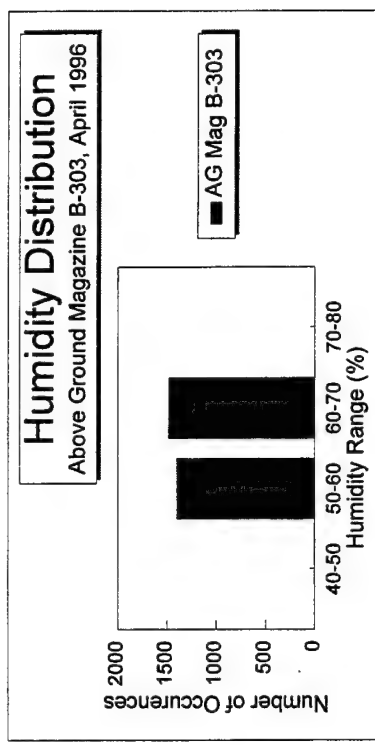
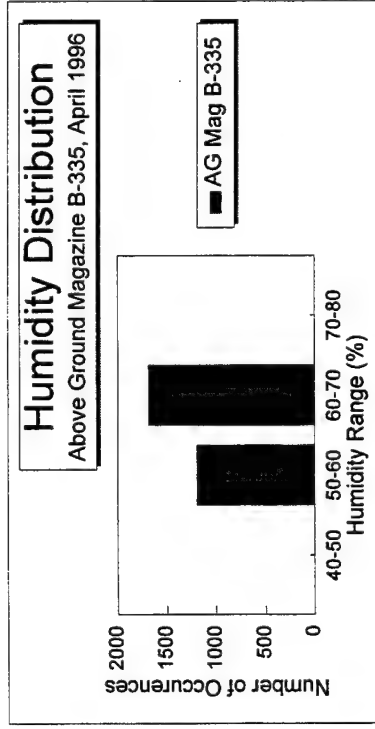
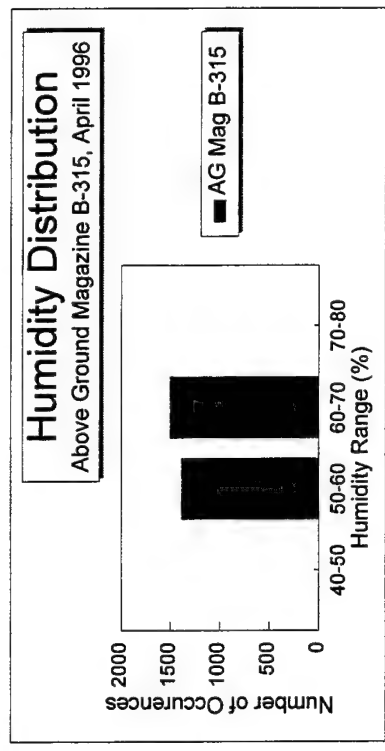
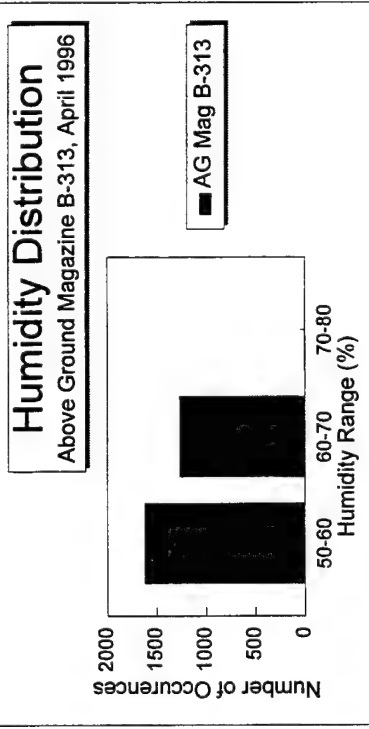
AG Mag B-163

Humidity Distribution

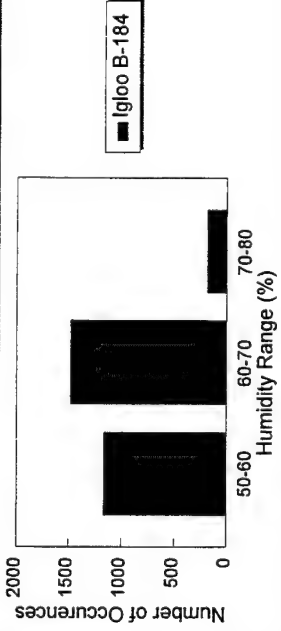
Above Ground Magazine B-182, April 1996



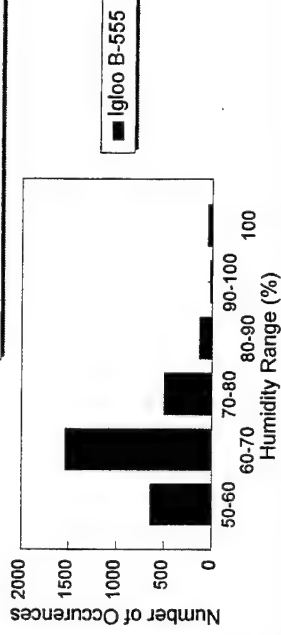
AG Mag B-182

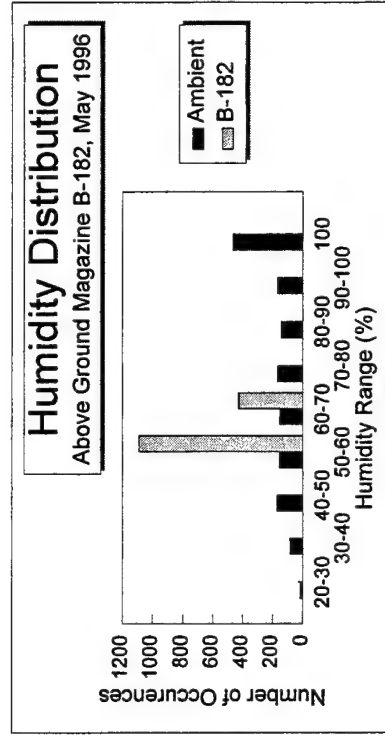
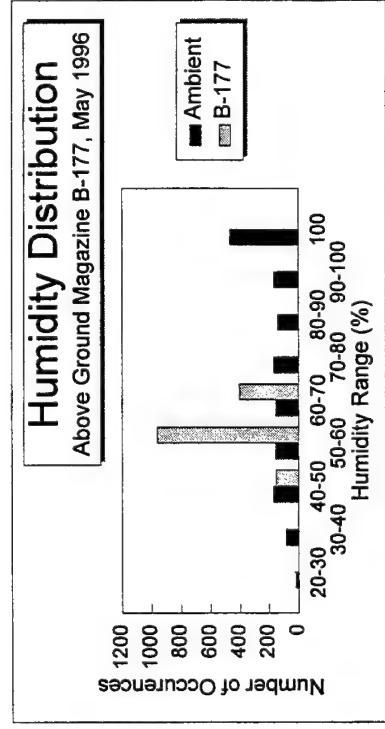
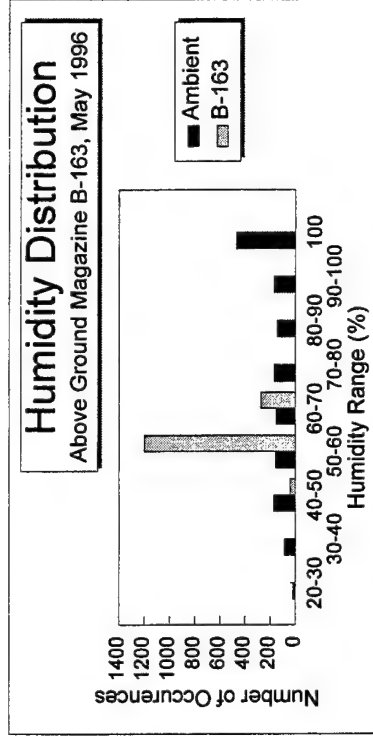
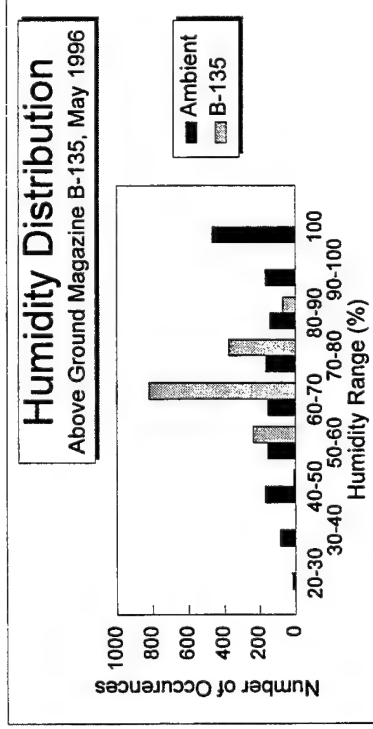
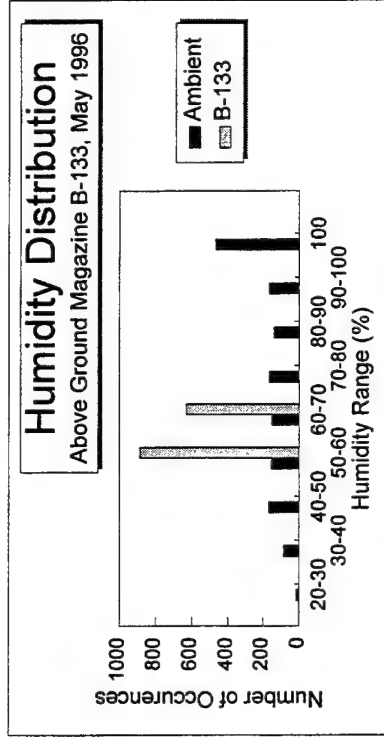
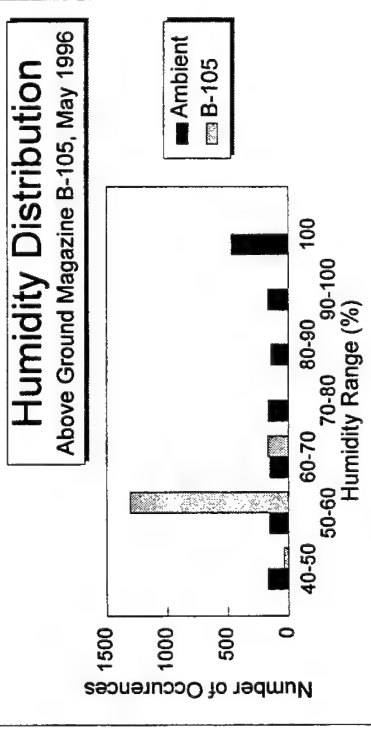


Humidity Distribution
Igloo B-184, April 1996



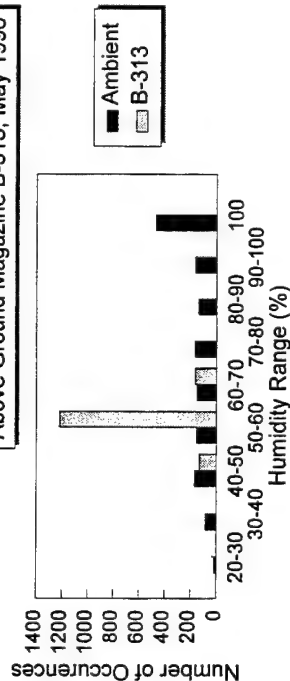
Humidity Distribution
Igloo B-555, April 1996





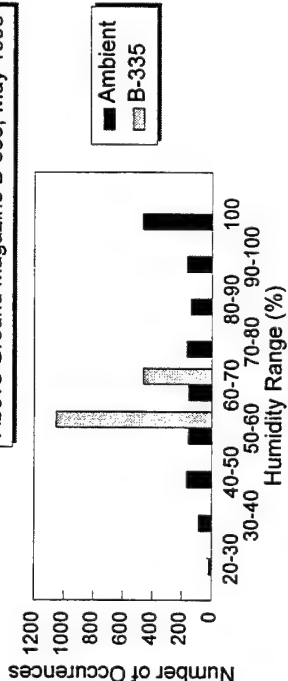
Humidity Distribution

Above Ground Magazine B-313, May 1996



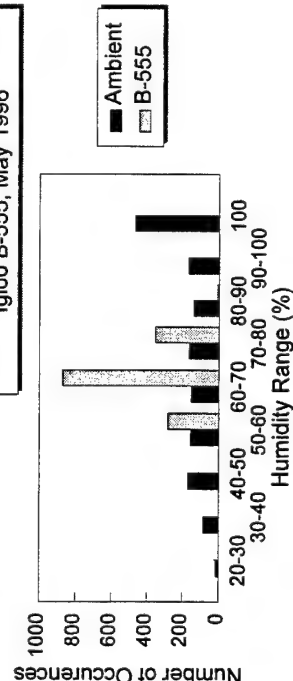
Humidity Distribution

Above Ground Magazine B-335, May 1996



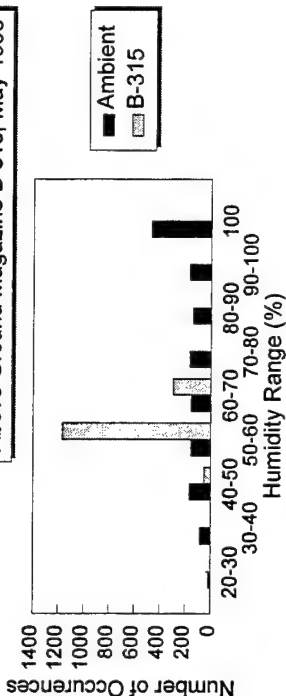
Humidity Distribution

Igloo B-555, May 1996



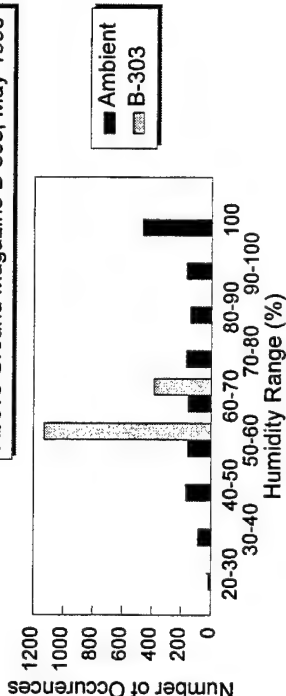
Humidity Distribution

Above Ground Magazine B-315, May 1996



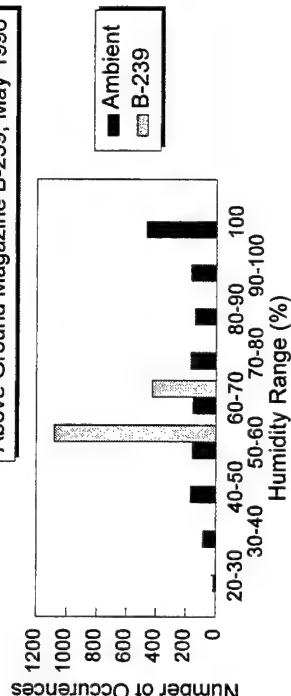
Humidity Distribution

Above Ground Magazine B-303, May 1996



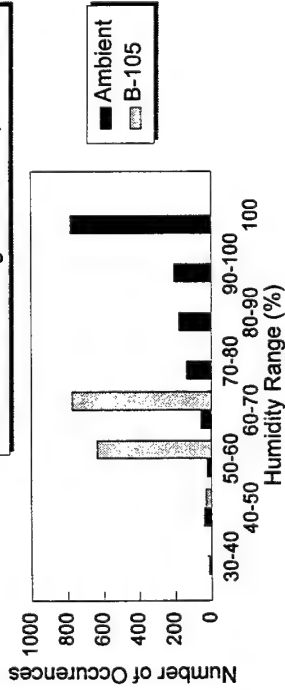
Humidity Distribution

Above Ground Magazine B-239, May 1996



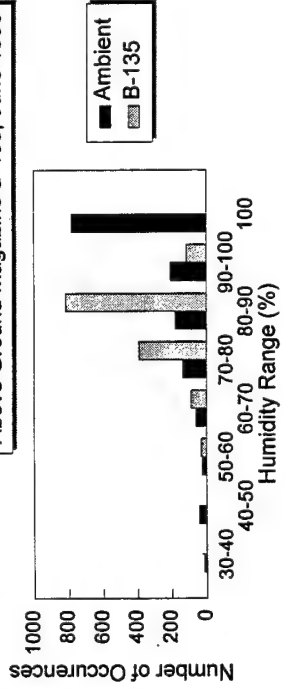
Humidity Distribution

Above Ground Magazine B-105, June 1996



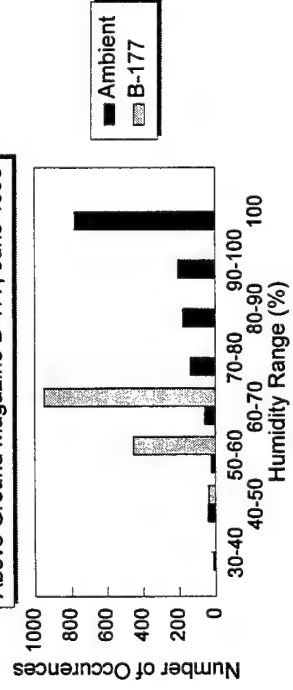
Humidity Distribution

Above Ground Magazine B-135, June 1996



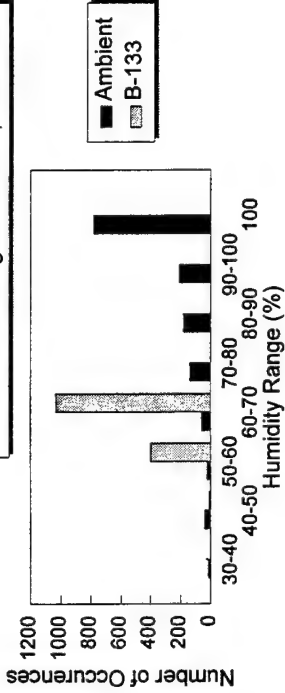
Humidity Distribution

Above Ground Magazine B-177, June 1996



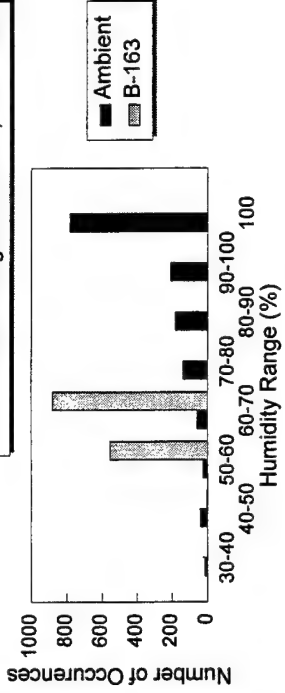
Humidity Distribution

Above Ground Magazine B-133, June 1996



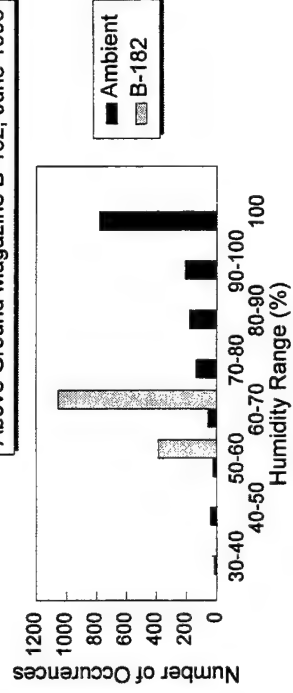
Humidity Distribution

Above Ground Magazine B-163, June 1996



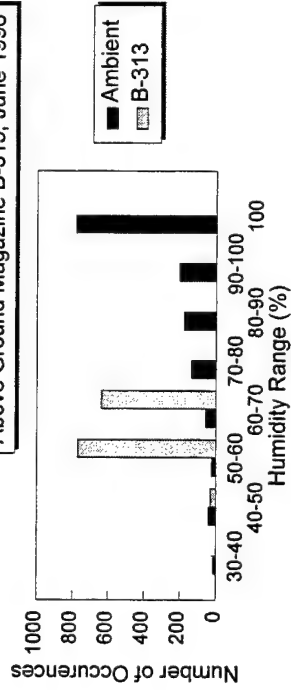
Humidity Distribution

Above Ground Magazine B-182, June 1996



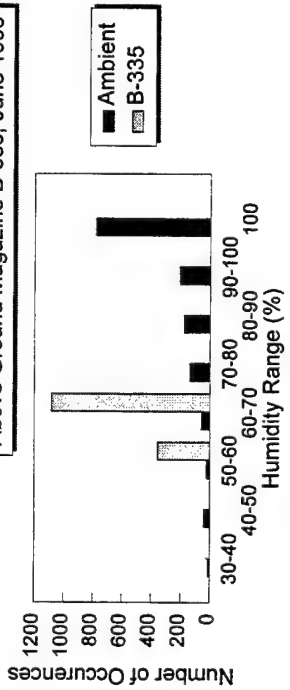
Humidity Distribution

Above Ground Magazine B-313, June 1996



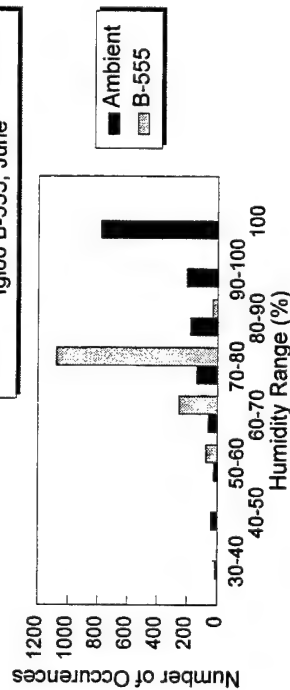
Humidity Distribution

Above Ground Magazine B-335, June 1996



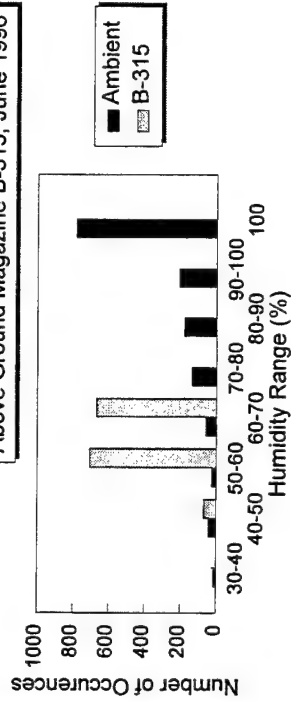
Humidity Distribution

Igloo B-555, June



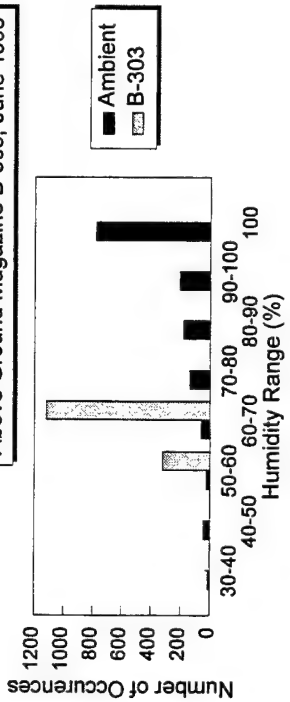
Humidity Distribution

Above Ground Magazine B-315, June 1996



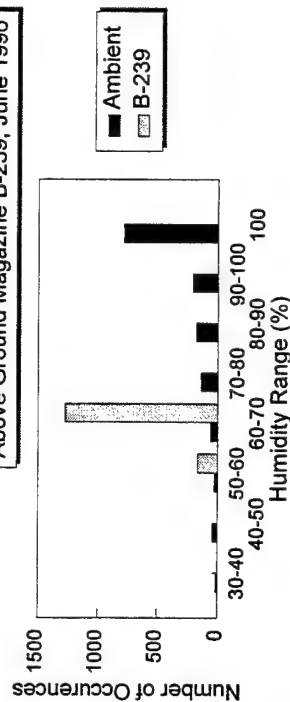
Humidity Distribution

Above Ground Magazine B-303, June 1996



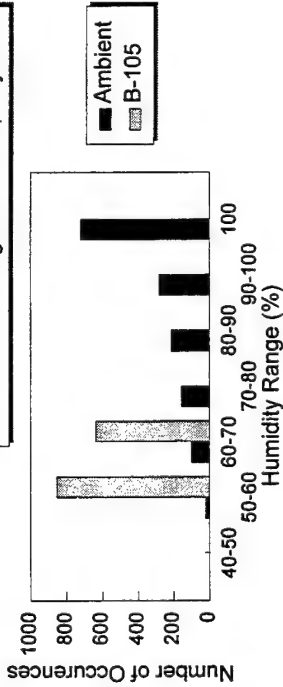
Humidity Distribution

Above Ground Magazine B-239, June 1996



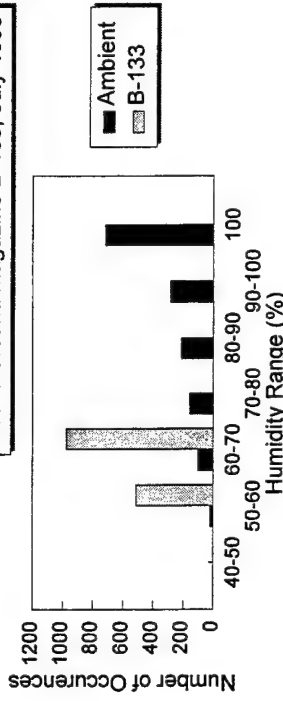
Humidity Distribution

Above Ground Magazine B-105, July 1996



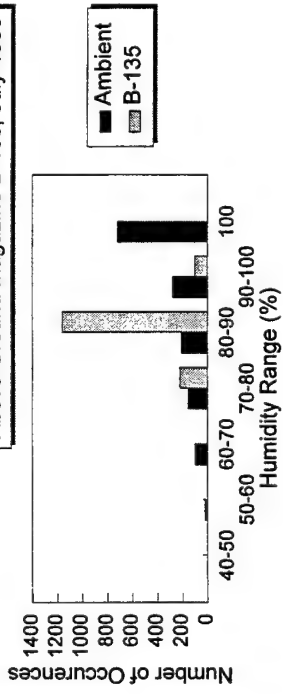
Humidity Distribution

Above Ground Magazine B-133, July 1996



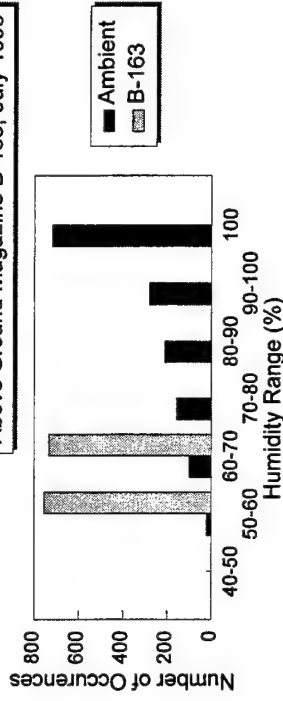
Humidity Distribution

Above Ground Magazine B-135, July 1996



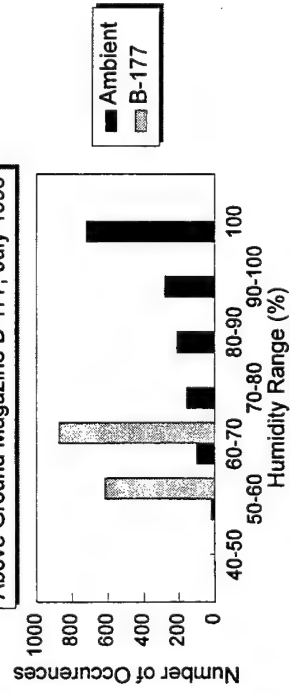
Humidity Distribution

Above Ground Magazine B-163, July 1996



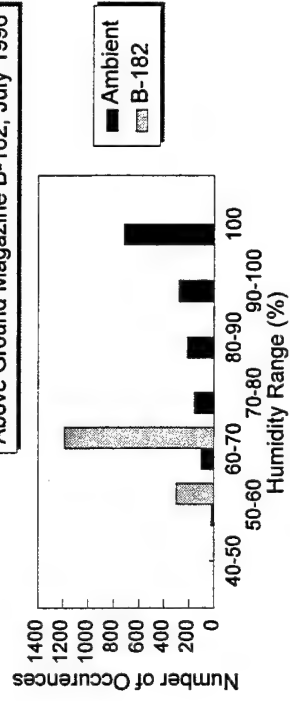
Humidity Distribution

Above Ground Magazine B-177, July 1996



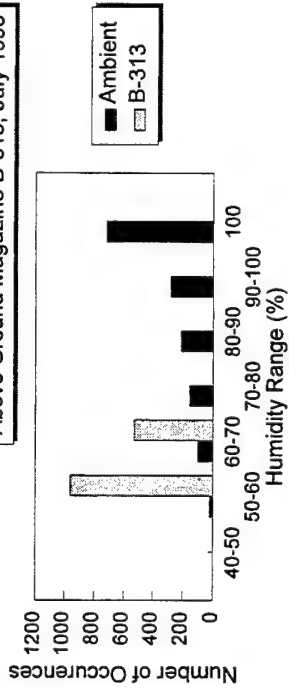
Humidity Distribution

Above Ground Magazine B-182, July 1996



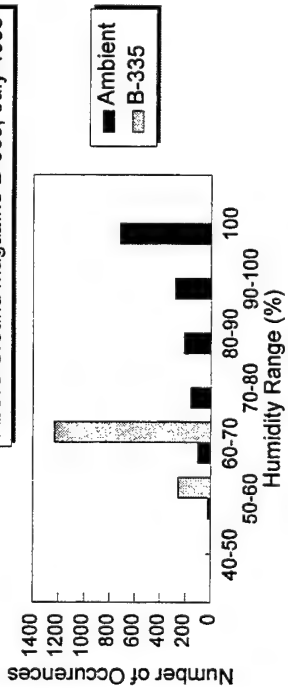
Humidity Distribution

Above Ground Magazine B-313, July 1996



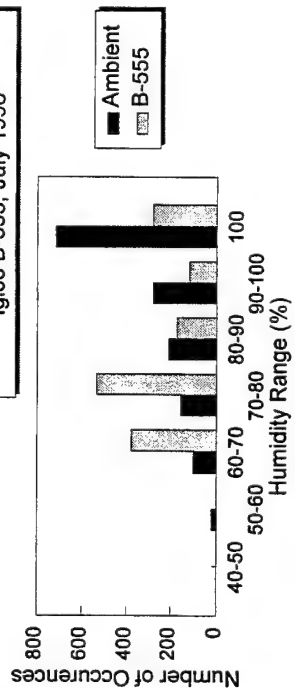
Humidity Distribution

Above Ground Magazine B-335, July 1996



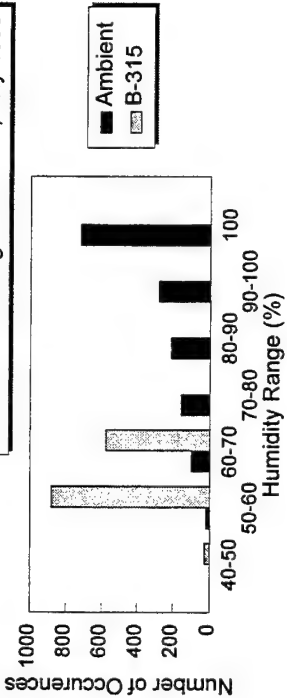
Humidity Distribution

Igloo B-555, July 1996



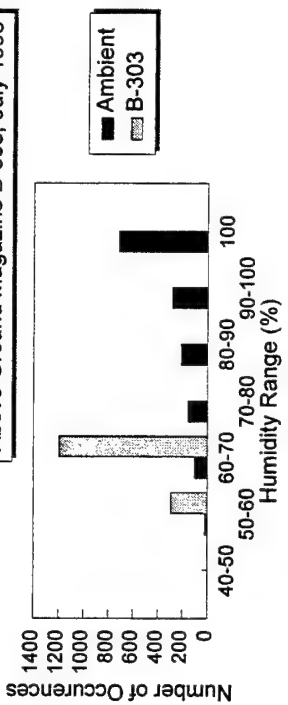
Humidity Distribution

Above Ground Magazine B-315, July 1996



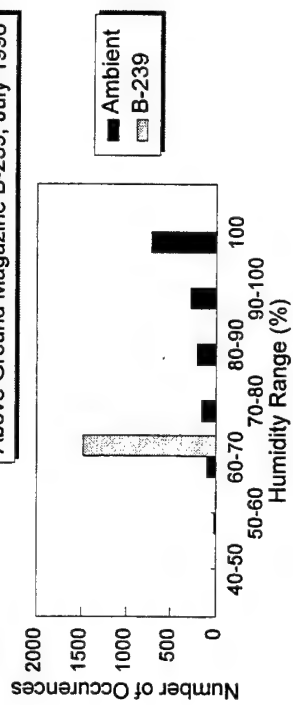
Humidity Distribution

Above Ground Magazine B-303, July 1996



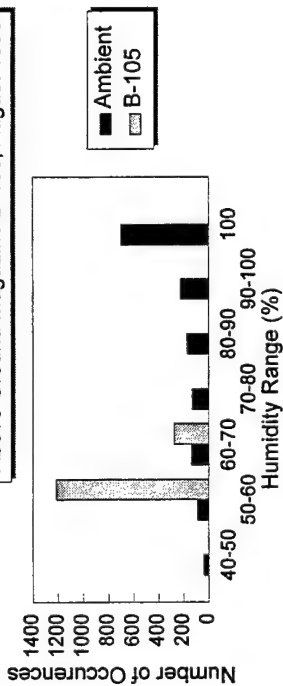
Humidity Distribution

Above Ground Magazine B-239, July 1996



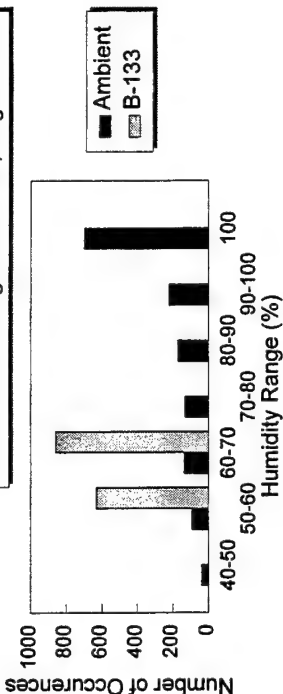
Humidity Distribution

Above Ground Magazine B-105, August 1996



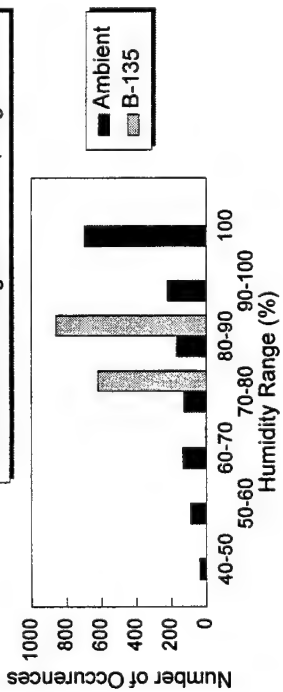
Humidity Distribution

Above Ground Magazine B-133, August 1996



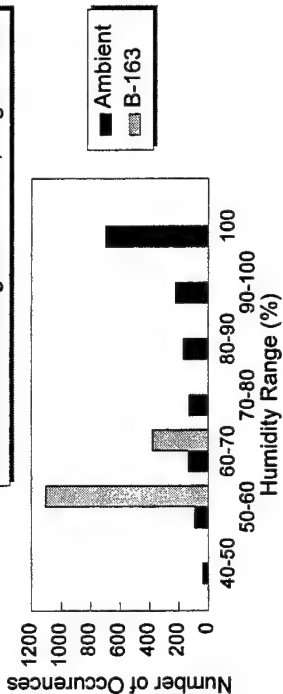
Humidity Distribution

Above Ground Magazine B-135, August 1996



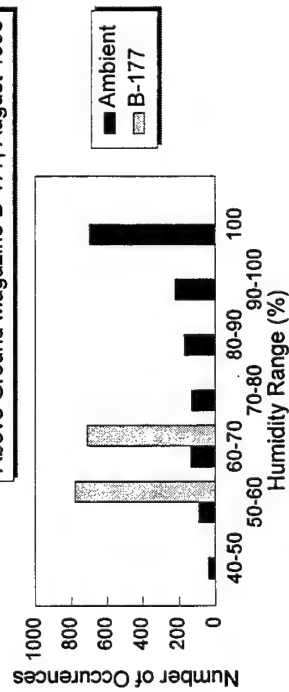
Humidity Distribution

Above Ground Magazine B-163, August 1996



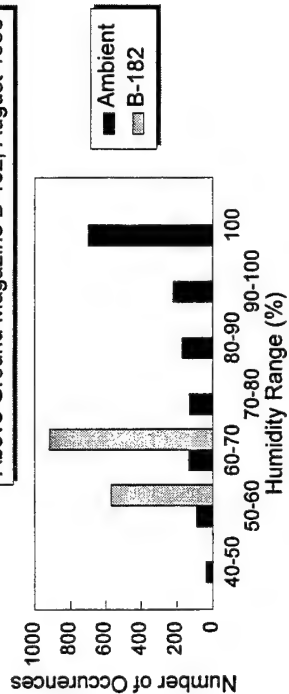
Humidity Distribution

Above Ground Magazine B-177, August 1996



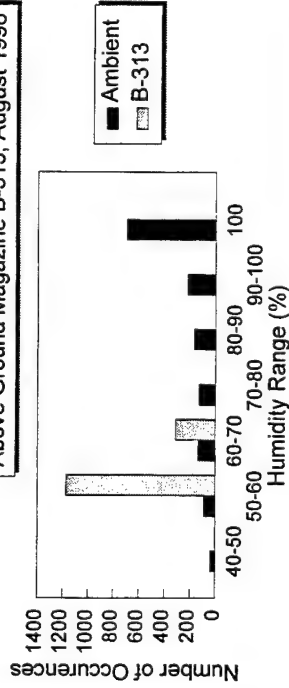
Humidity Distribution

Above Ground Magazine B-182, August 1996



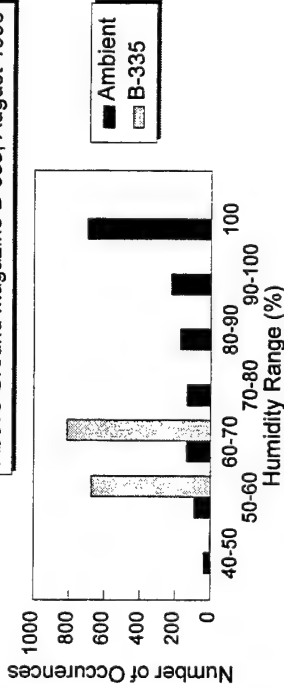
Humidity Distribution

Above Ground Magazine B-313, August 1996



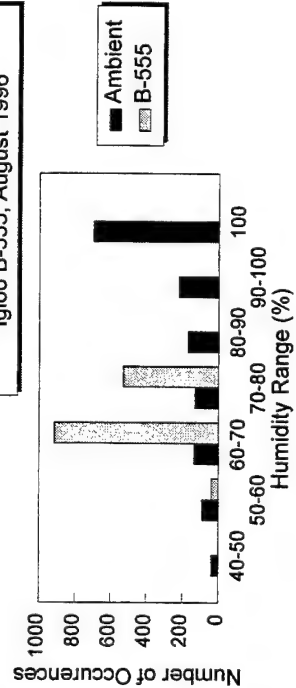
Humidity Distribution

Above Ground Magazine B-335, August 1996



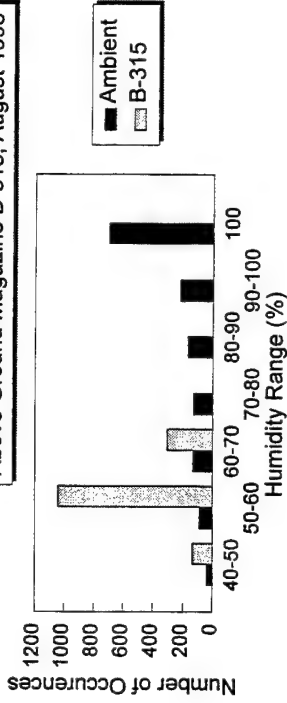
Humidity Distribution

Igloo B-555, August 1996



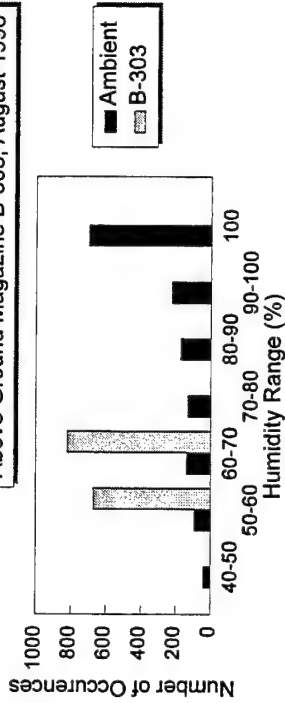
Humidity Distribution

Above Ground Magazine B-315, August 1996



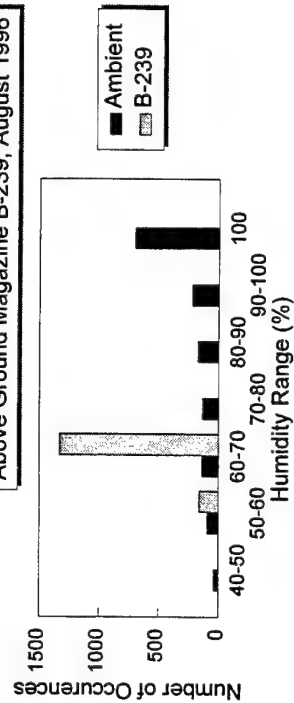
Humidity Distribution

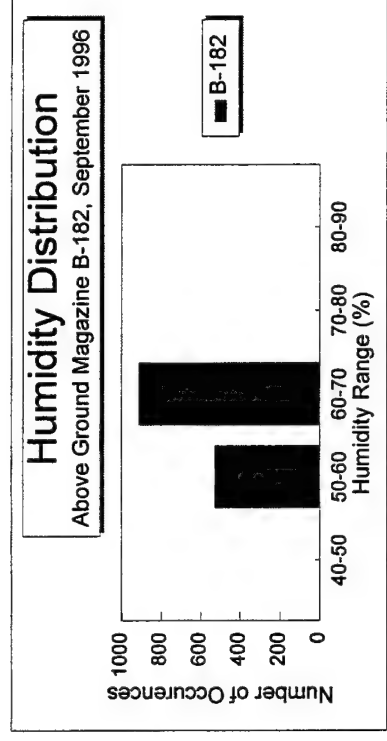
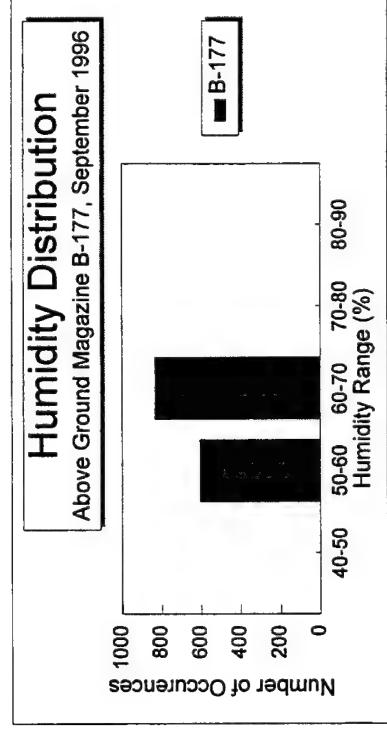
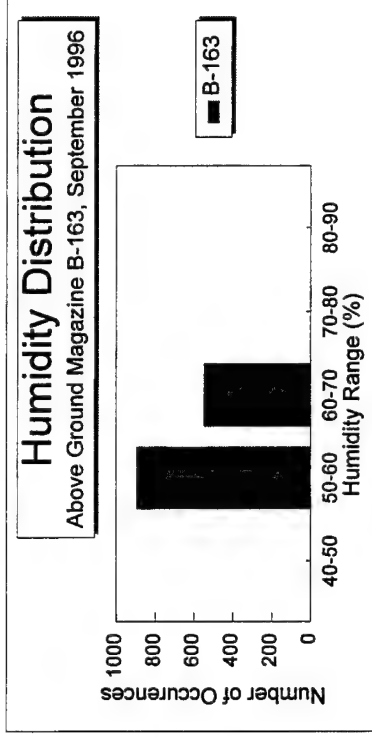
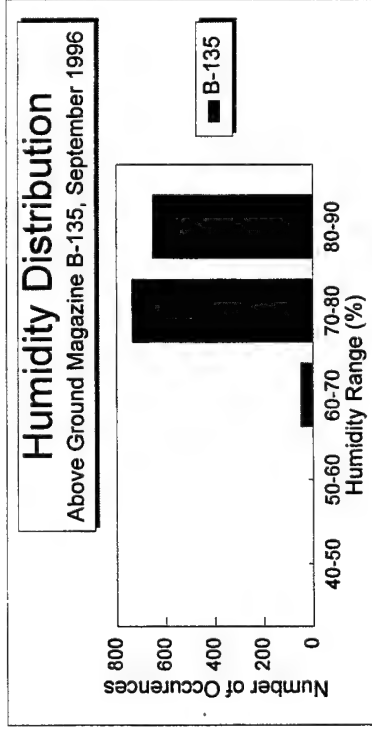
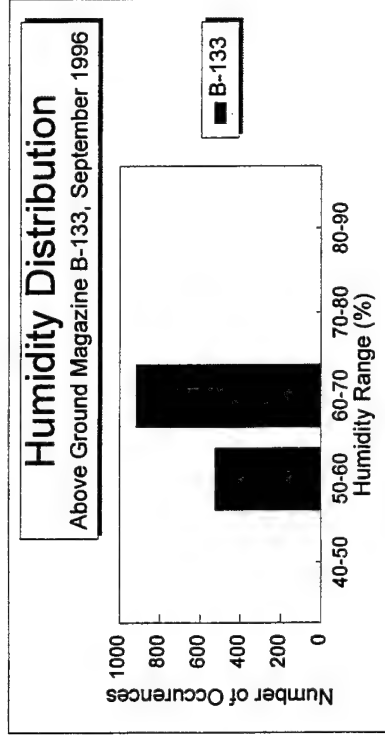
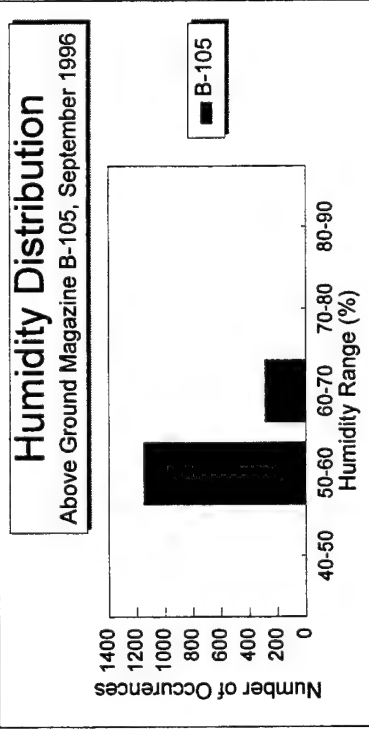
Above Ground Magazine B-303, August 1996



Humidity Distribution

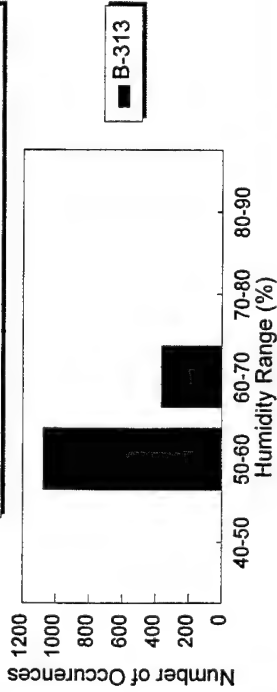
Above Ground Magazine B-239, August 1996





Humidity Distribution

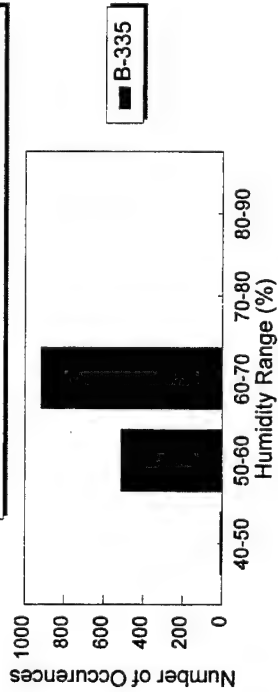
Above Ground Magazine B-313, September 1996



■ B-313

Humidity Distribution

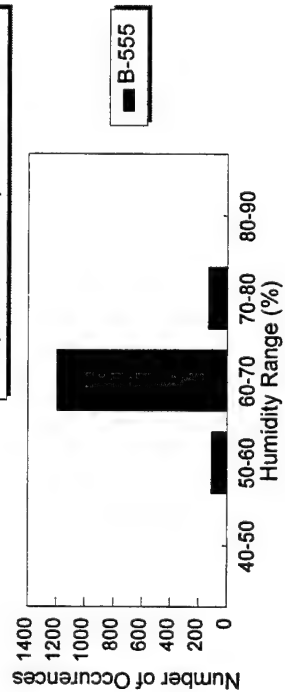
Above Ground Magazine B-335, September 1996



■ B-335

Humidity Distribution

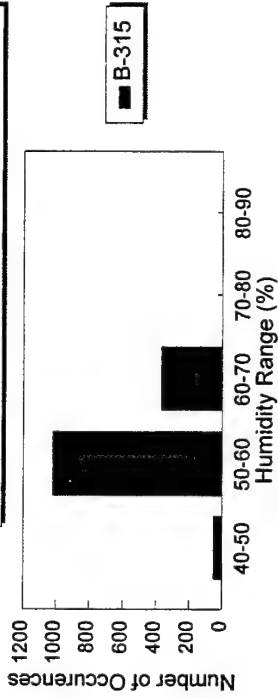
Igloo B-555, September 1996



■ B-555

Humidity Distribution

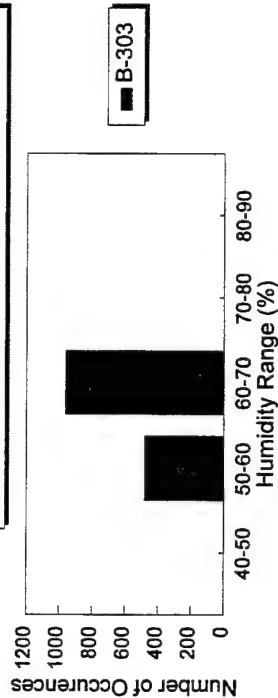
Above Ground Magazine B-315, September 1996



■ B-315

Humidity Distribution

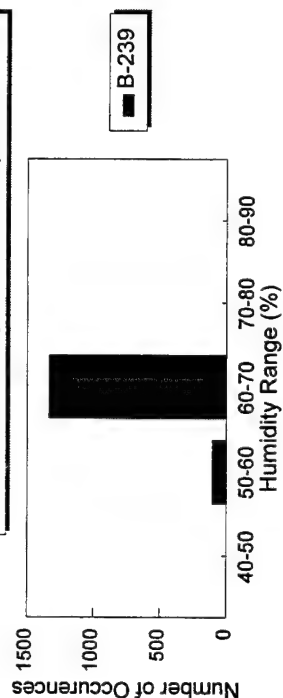
Above Ground Magazine B-303, September 1996



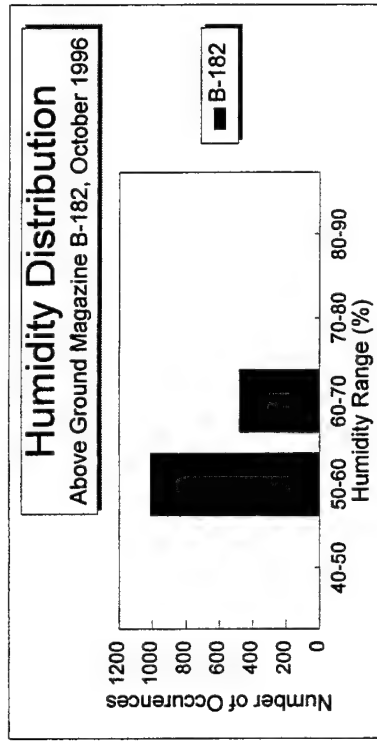
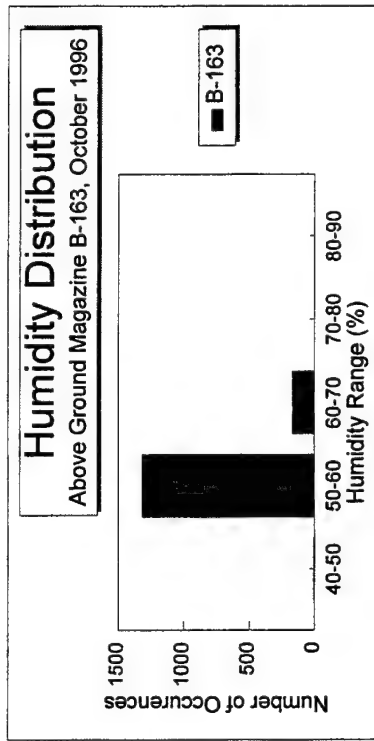
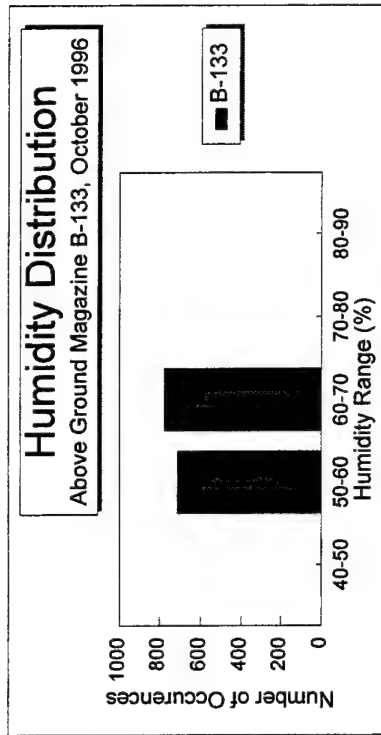
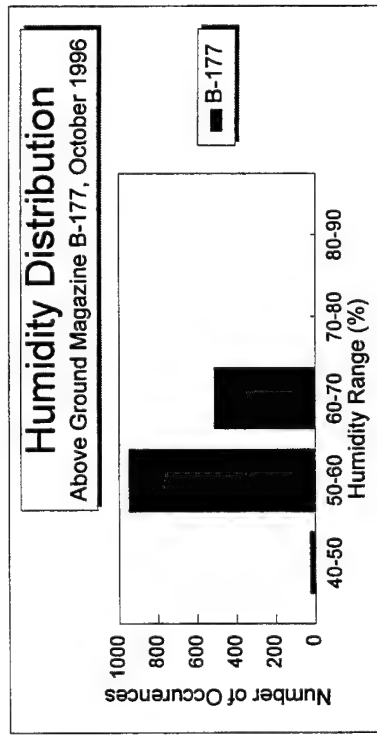
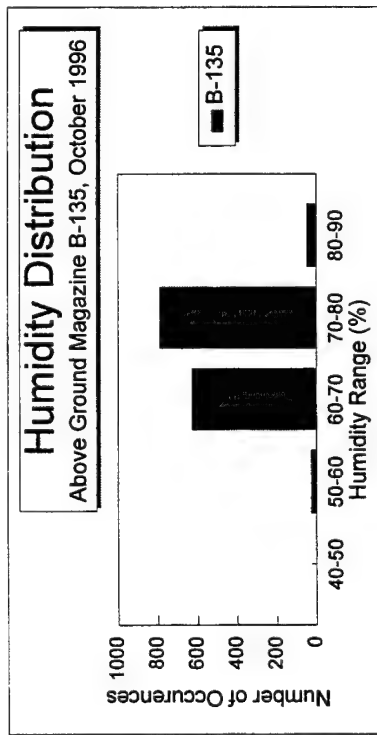
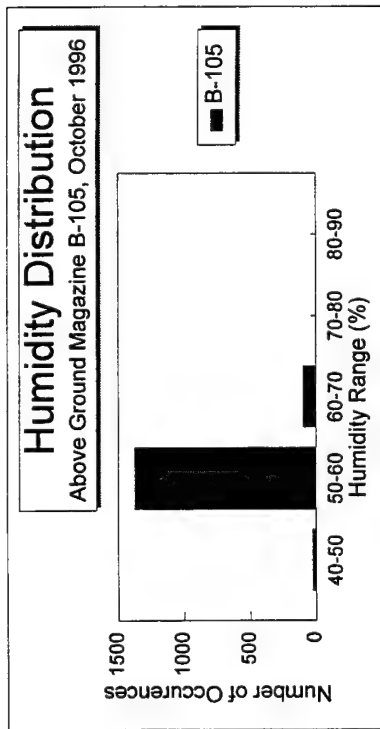
■ B-303

Humidity Distribution

Above Ground Magazine B-239, September 1996

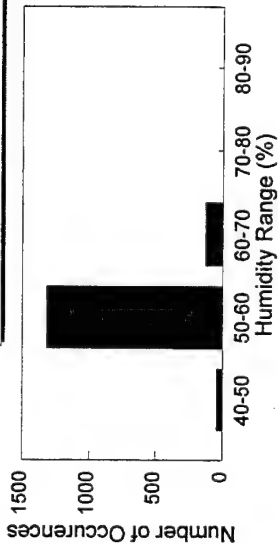


■ B-239



Humidity Distribution

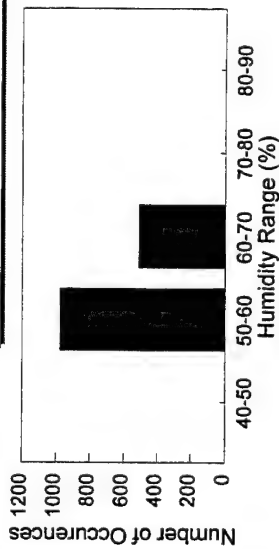
Above Ground Magazine B-313, October 1996



■ B-313

Humidity Distribution

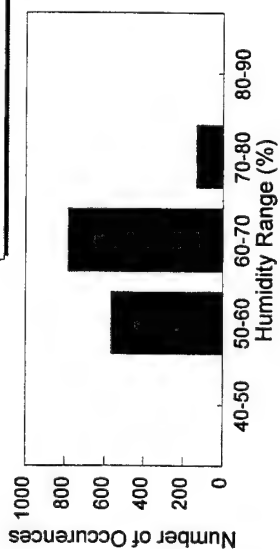
Above Ground Magazine B-335, October 1996



■ B-335

Humidity Distribution

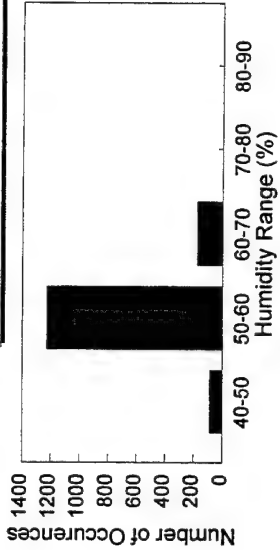
Igloo B-555, October 1996



■ B-555

Humidity Distribution

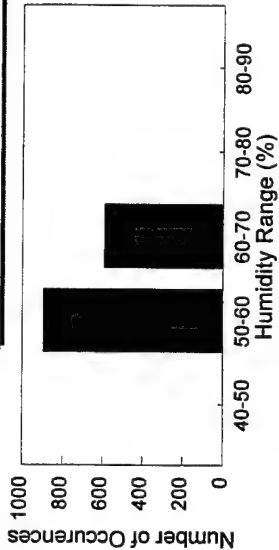
Above Ground Magazine B-315, October 1996



■ B-315

Humidity Distribution

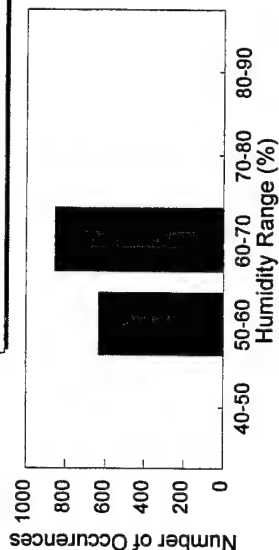
Above Ground Magazine B-303, October 1996



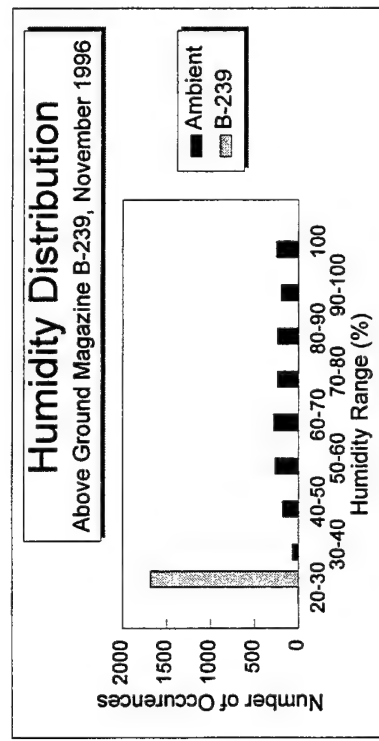
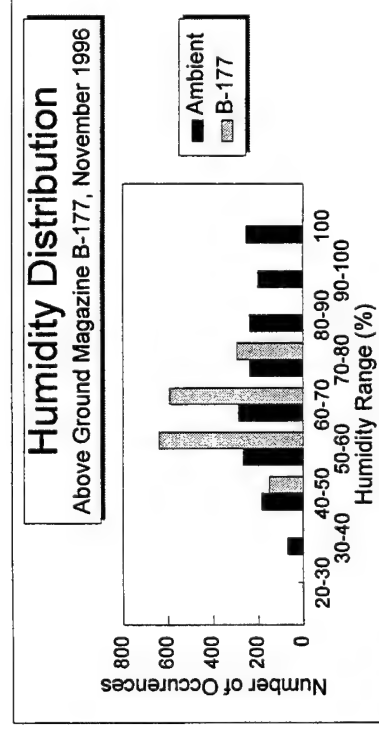
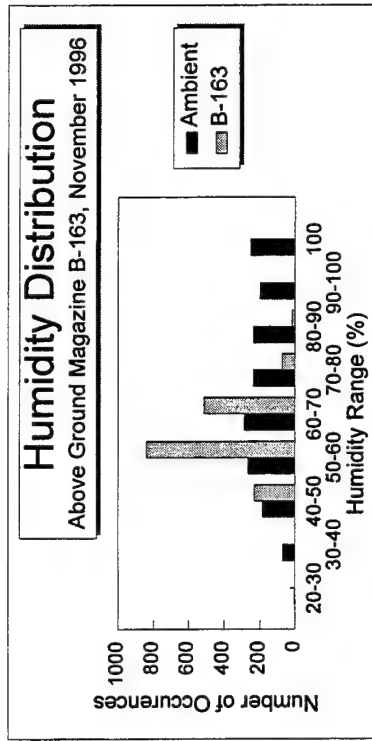
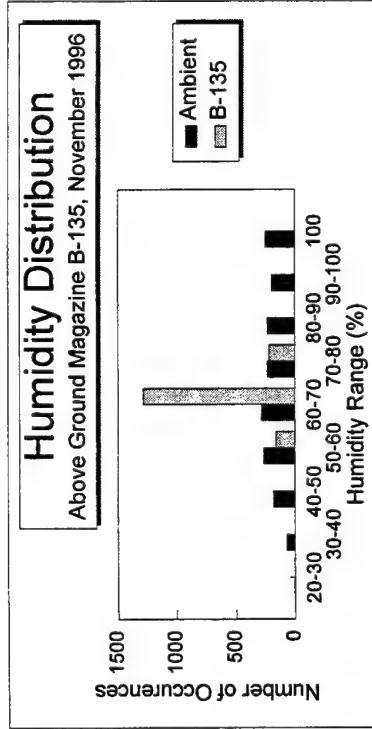
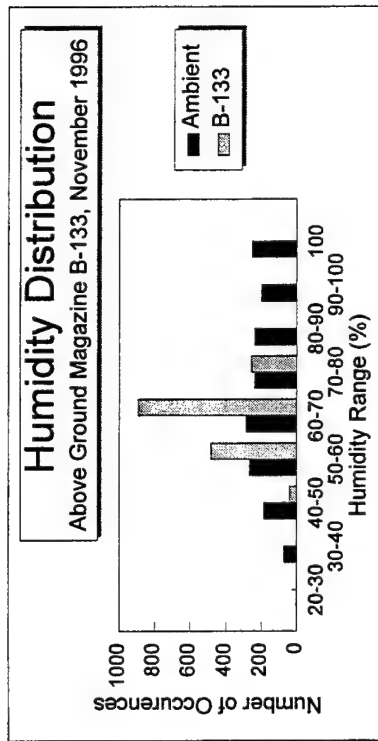
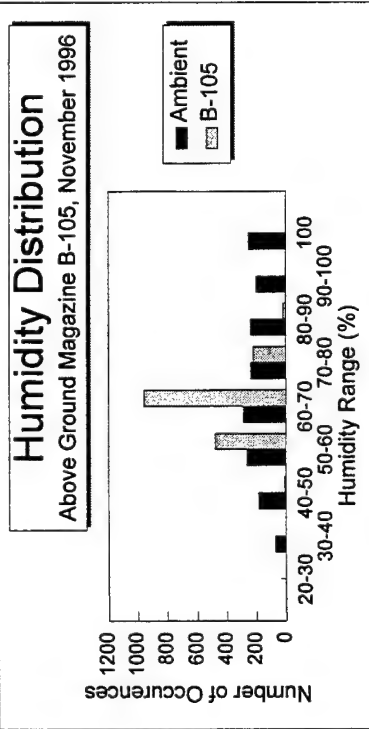
■ B-303

Humidity Distribution

Above Ground Magazine B-239, October 1996

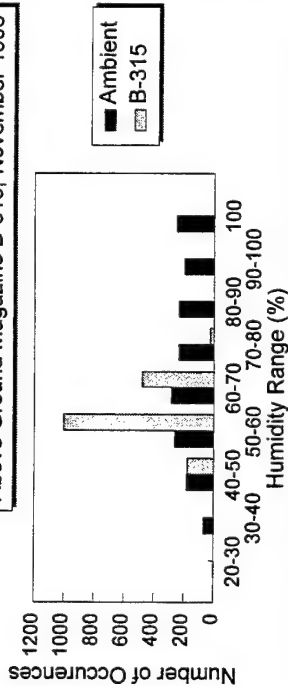


■ B-239



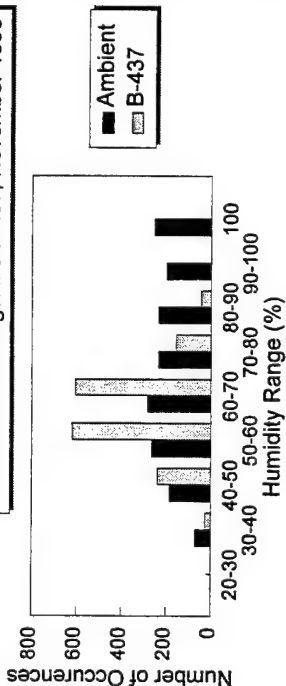
Humidity Distribution

Above Ground Magazine B-315, November 1996



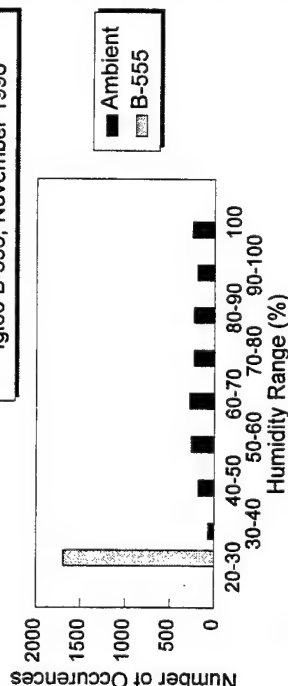
Humidity Distribution

Above Ground Magazine B-437, November 1996



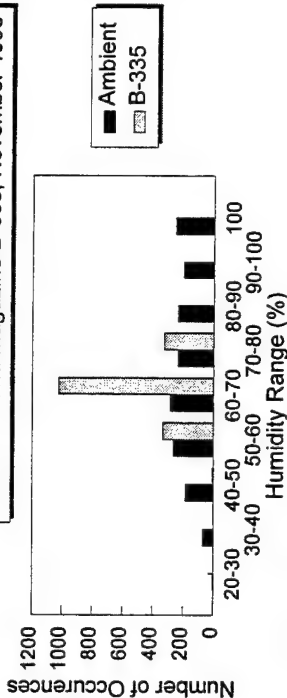
Humidity Distribution

Igloo B-555, November 1996



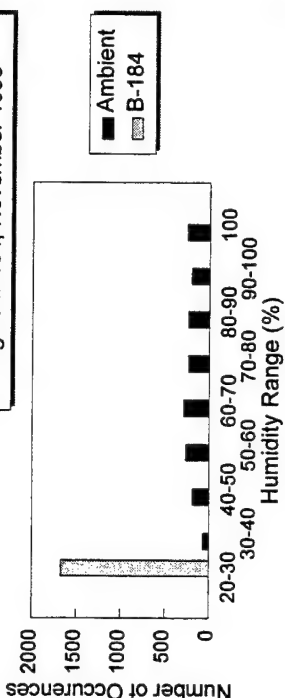
Humidity Distribution

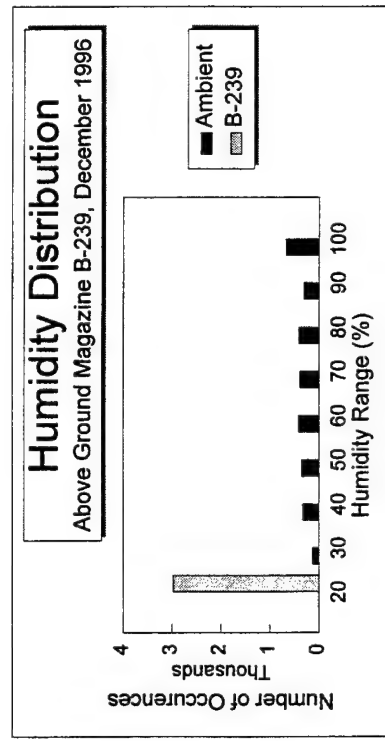
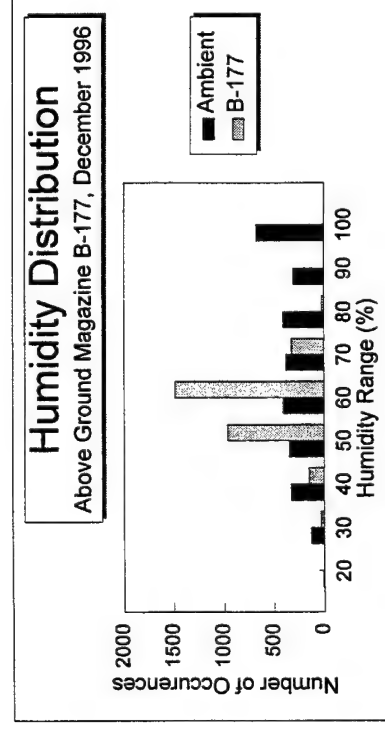
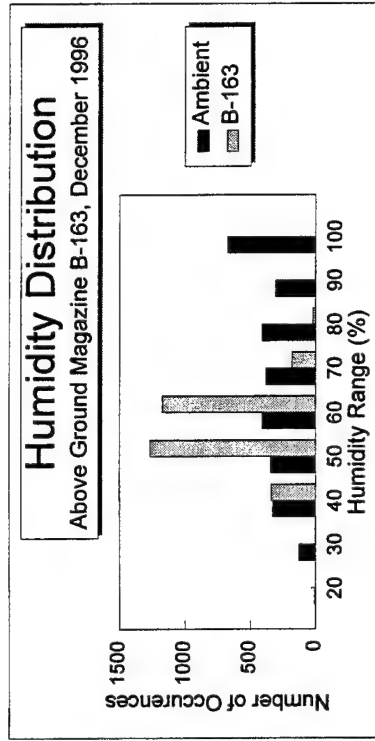
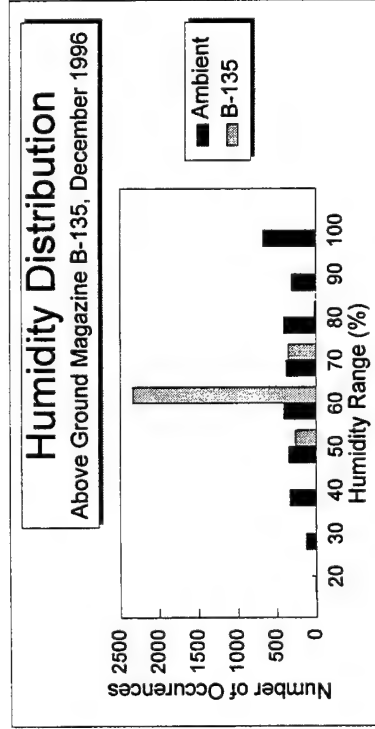
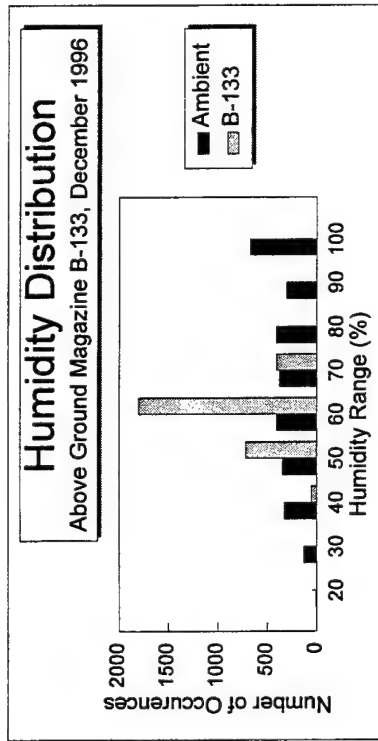
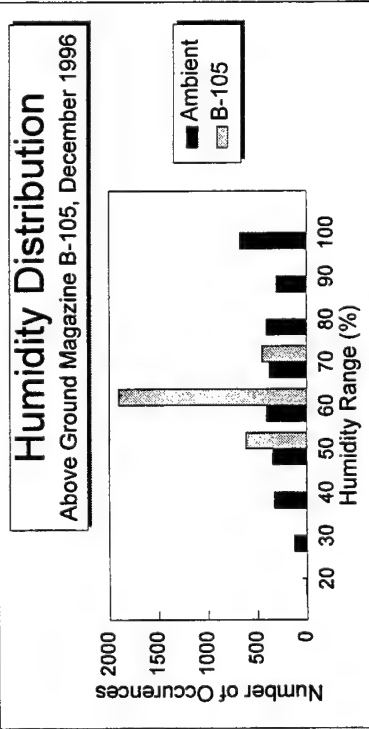
Above Ground Magazine B-335, November 1996



Humidity Distribution

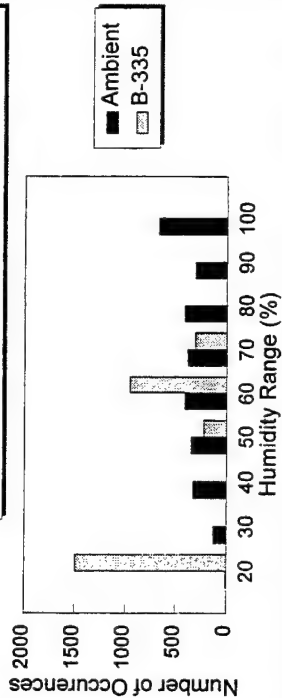
Igloo B-184, November 1996





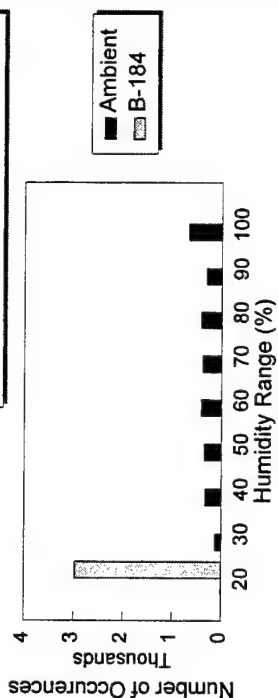
Humidity Distribution

Above Ground Magazine B-335, December 1996



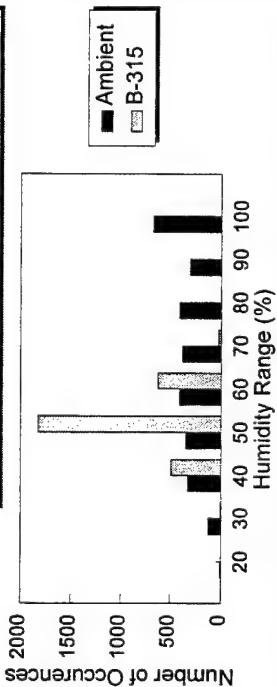
Humidity Distribution

Igloo B-184, December 1996



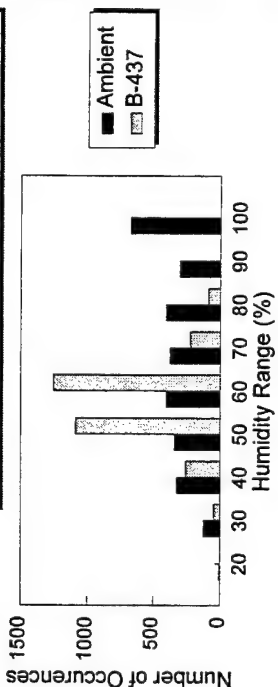
Humidity Distribution

Above Ground Magazine B-315, December 1996



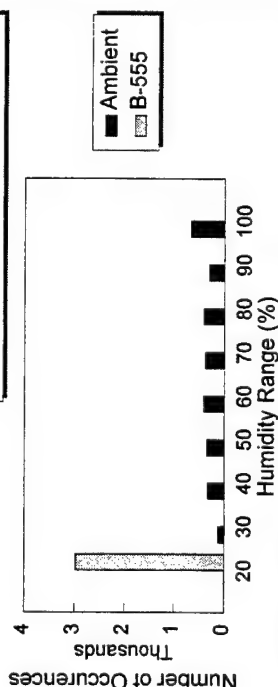
Humidity Distribution

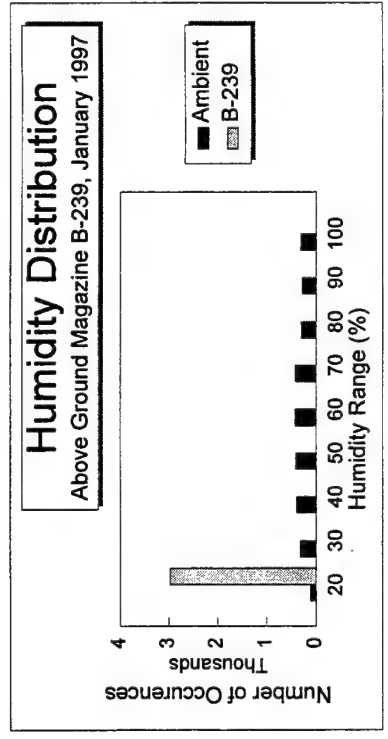
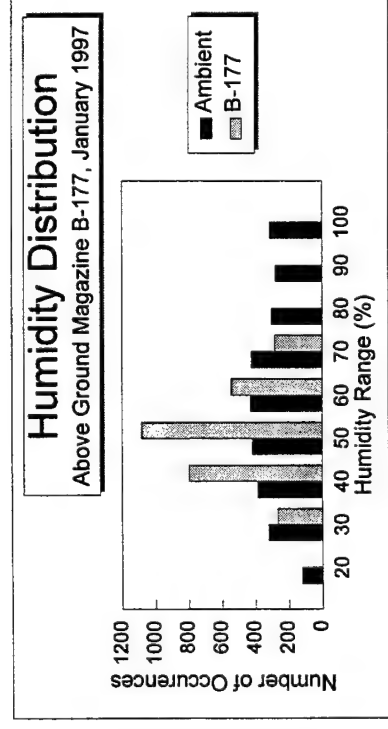
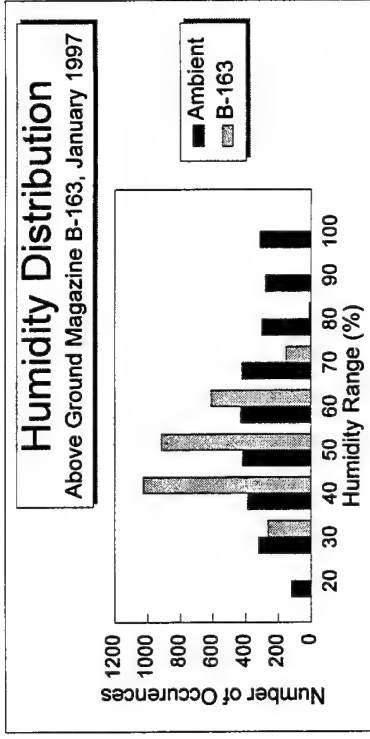
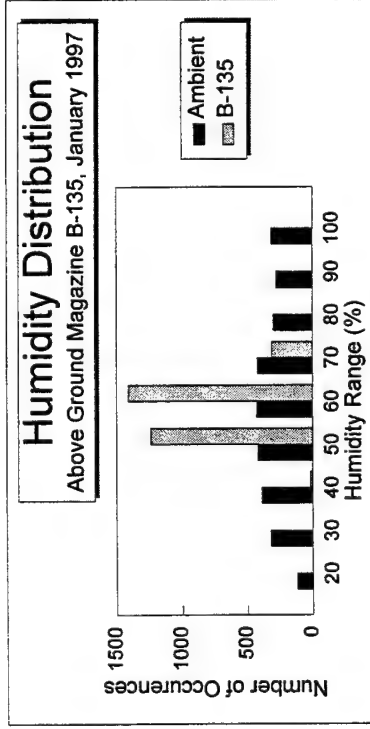
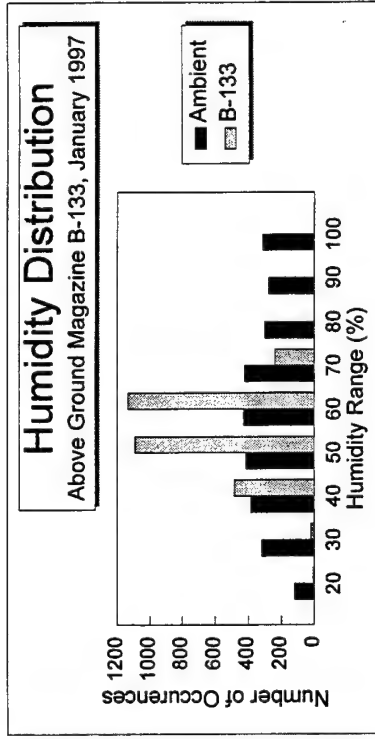
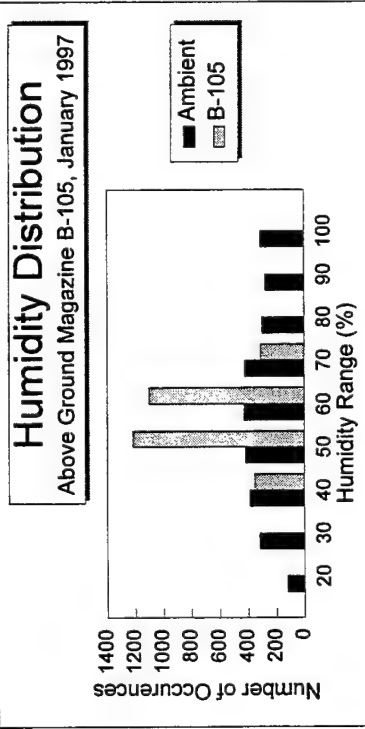
Above Ground Magazine B-437, December 1996



Humidity Distribution

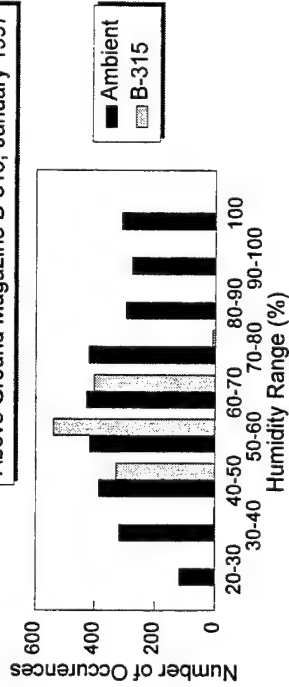
Igloo B-555, December 1996





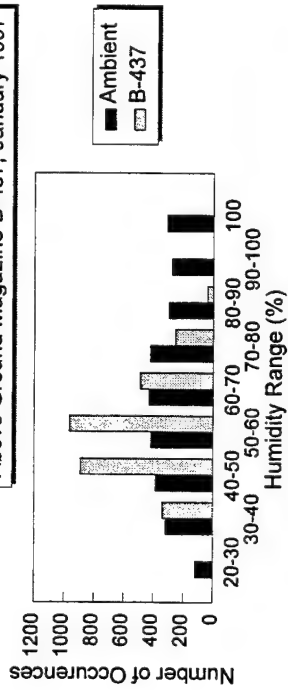
Humidity Distribution

Above Ground Magazine B-315, January 1997



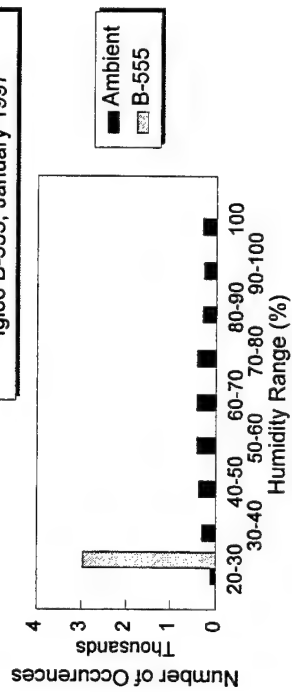
Humidity Distribution

Above Ground Magazine B-437, January 1997



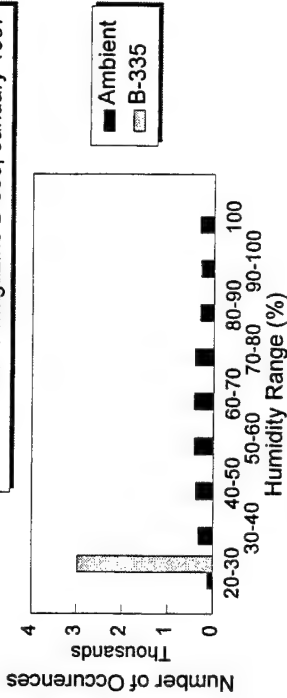
Humidity Distribution

Igloo B-555, January 1997



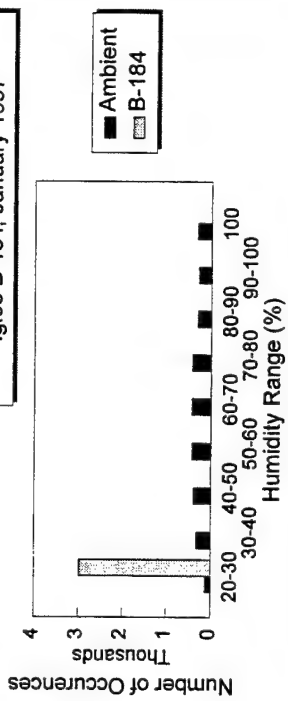
Humidity Distribution

Above Ground Magazine B-335, January 1997



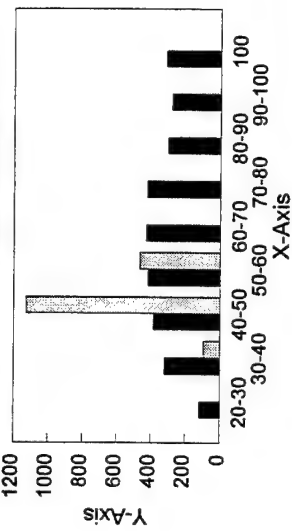
Humidity Distribution

Igloo B-184, January 1997



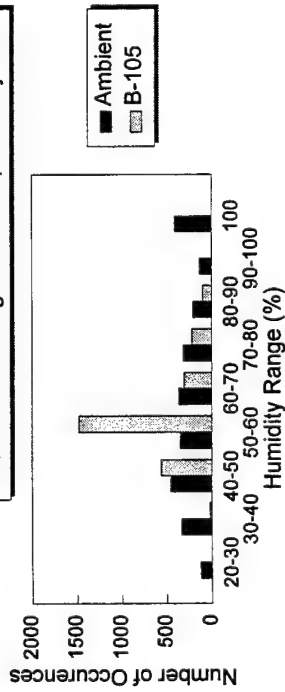
Humidity Distribution

Igloo B-215, January 1997



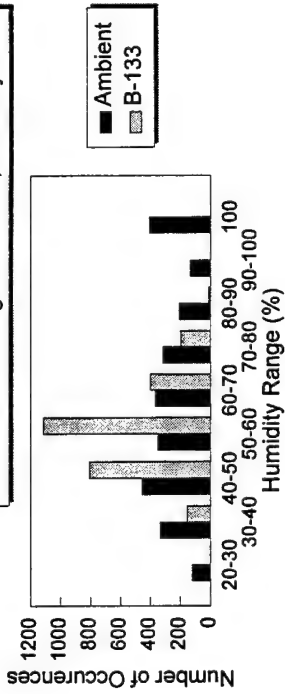
Humidity Distribution

Above Ground Magazine B-105, February 1997



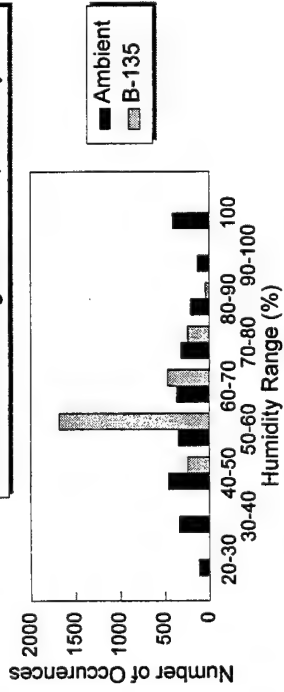
Humidity Distribution

Above Ground Magazine B-133, February 1997



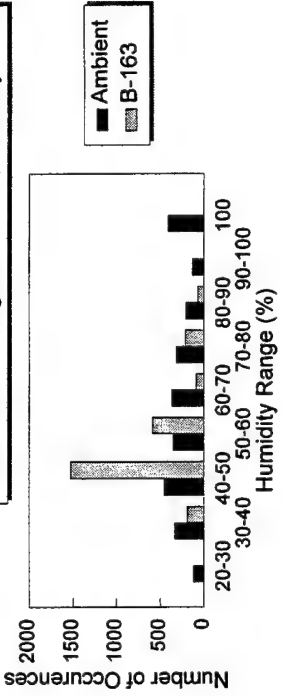
Humidity Distribution

Above Ground Magazine B-135, February 1997



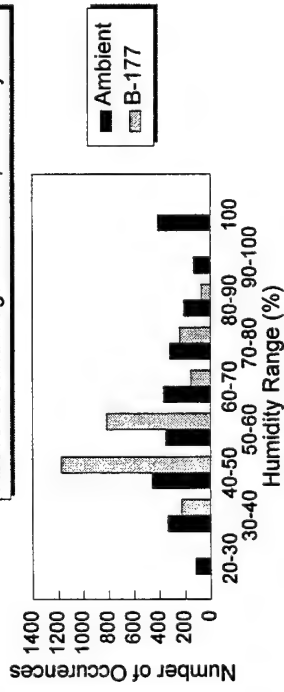
Humidity Distribution

Above Ground Magazine B-163, February 1997



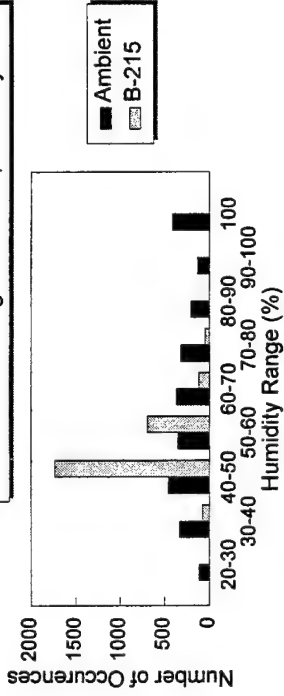
Humidity Distribution

Above Ground Magazine B-177, February 1997



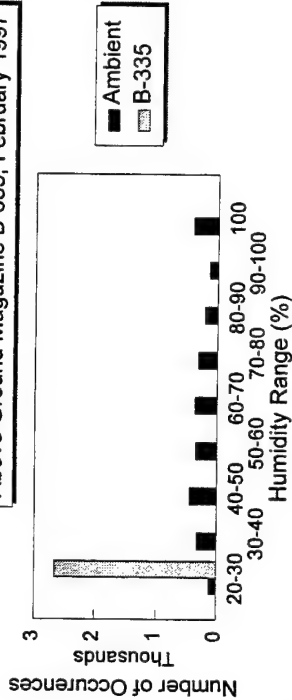
Humidity Distribution

Above Ground Magazine B-215, February 1997



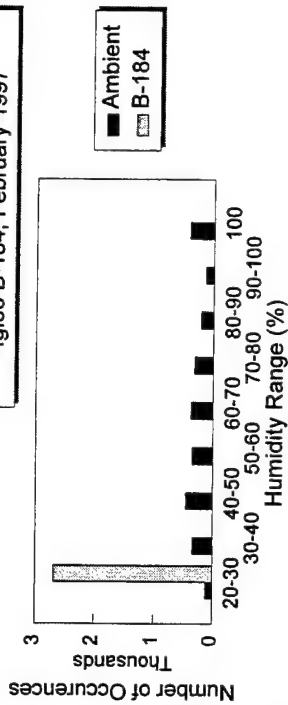
Humidity Distribution

Above Ground Magazine B-335, February 1997



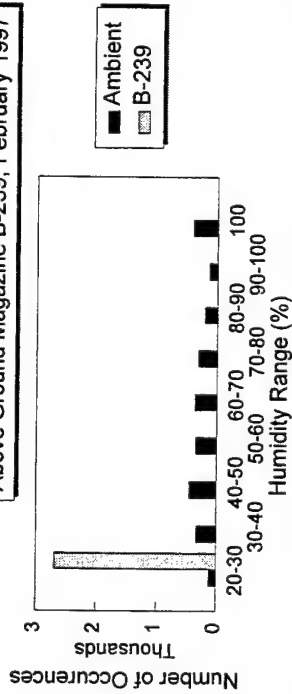
Humidity Distribution

Igloo B-184, February 1997



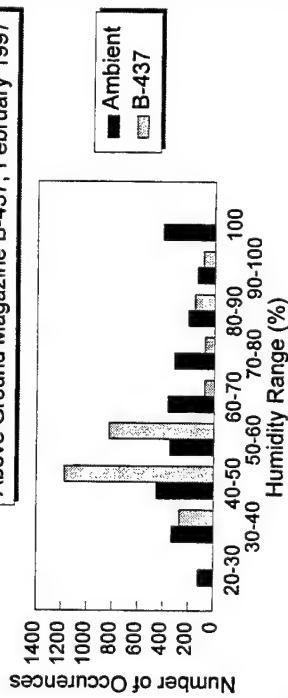
Humidity Distribution

Above Ground Magazine B-239, February 1997



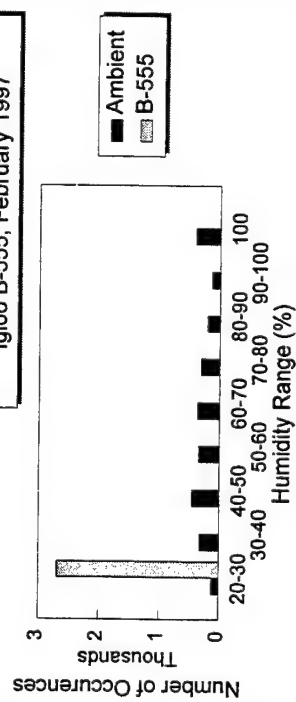
Humidity Distribution

Above Ground Magazine B-437, February 1997



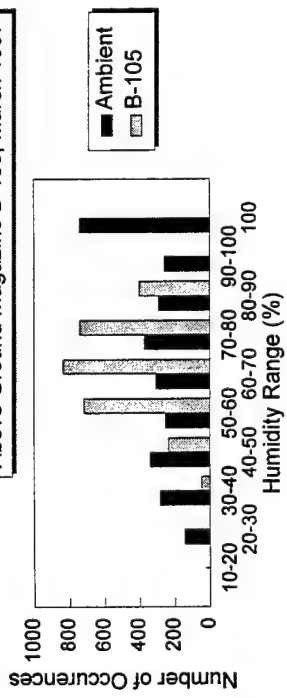
Humidity Distribution

Igloo B-555, February 1997



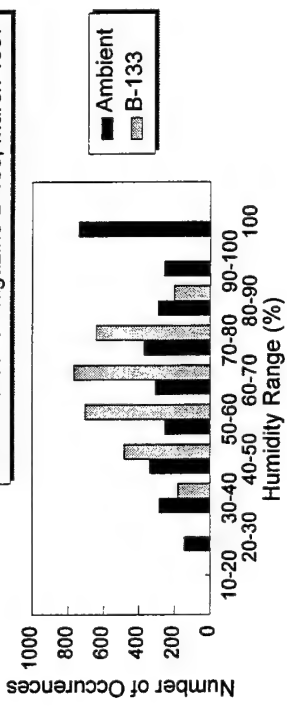
Humidity Distribution

Above Ground Magazine B-105, March 1997



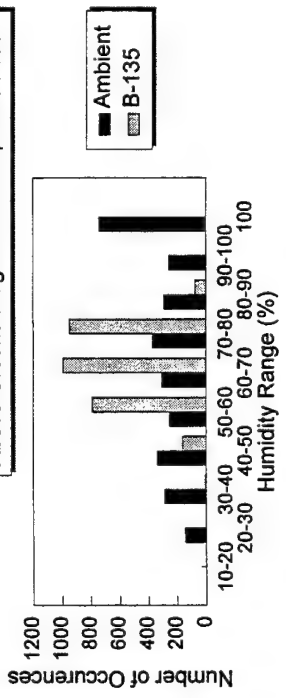
Humidity Distribution

Above Ground Magazine B-133, March 1997



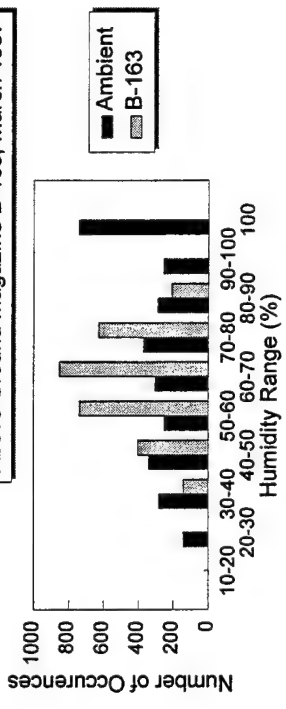
Humidity Distribution

Above Ground Magazine B-135, March 1997



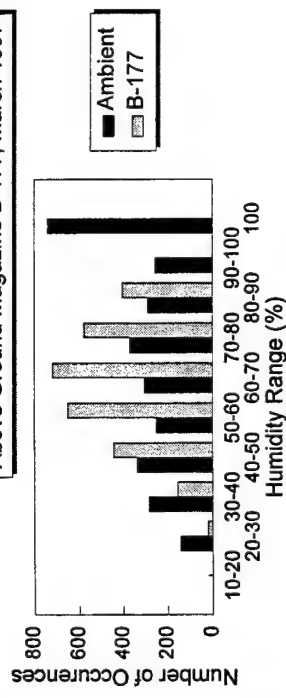
Humidity Distribution

Above Ground Magazine B-163, March 1997



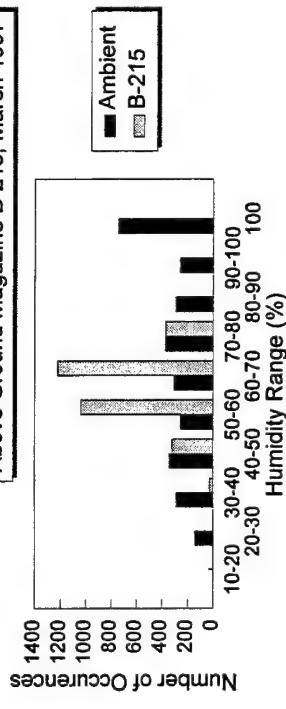
Humidity Distribution

Above Ground Magazine B-177, March 1997



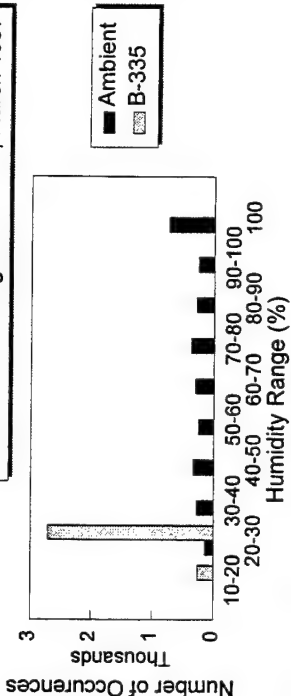
Humidity Distribution

Above Ground Magazine B-215, March 1997



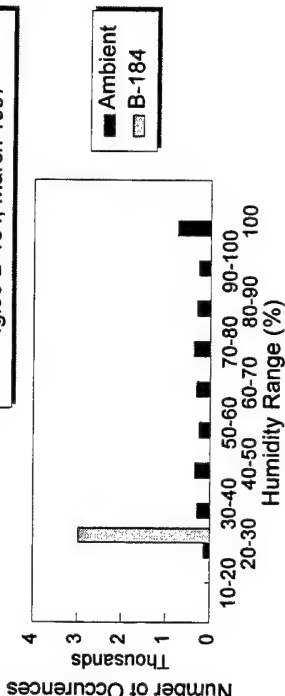
Humidity Distribution

Above Ground Magazine B-335, March 1997



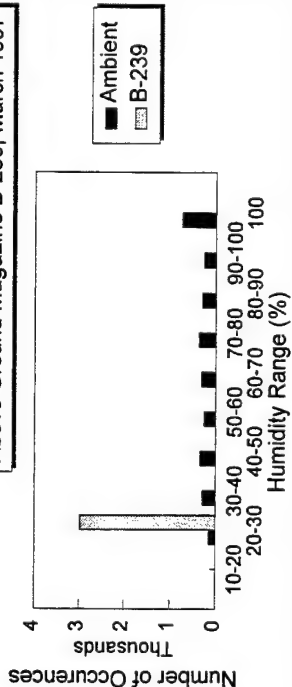
Humidity Distribution

Igloo B-184, March 1997



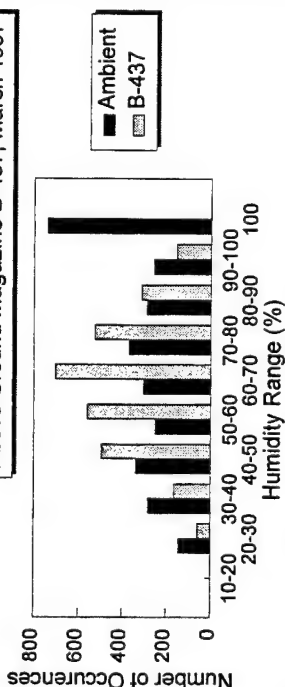
Humidity Distribution

Above Ground Magazine B-239, March 1997



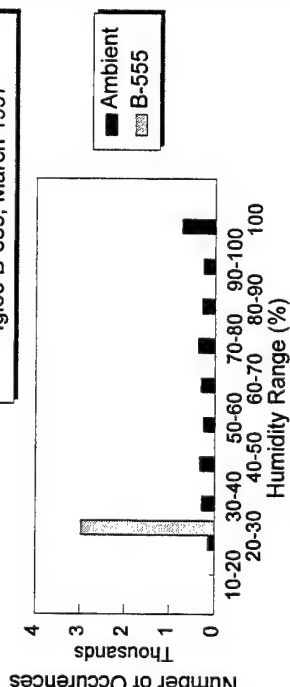
Humidity Distribution

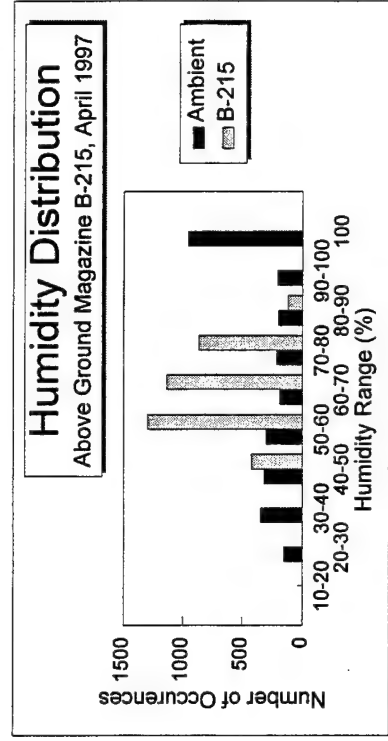
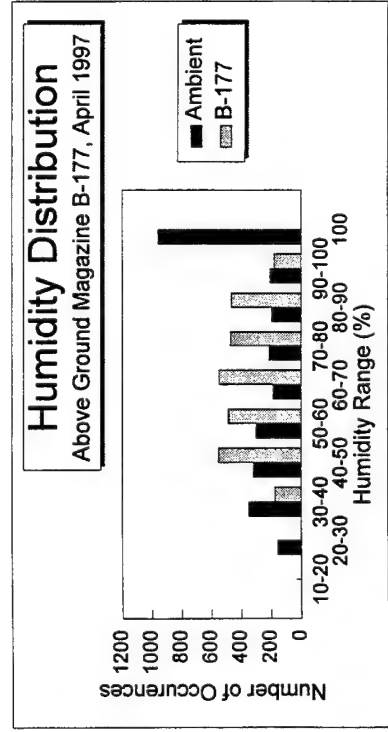
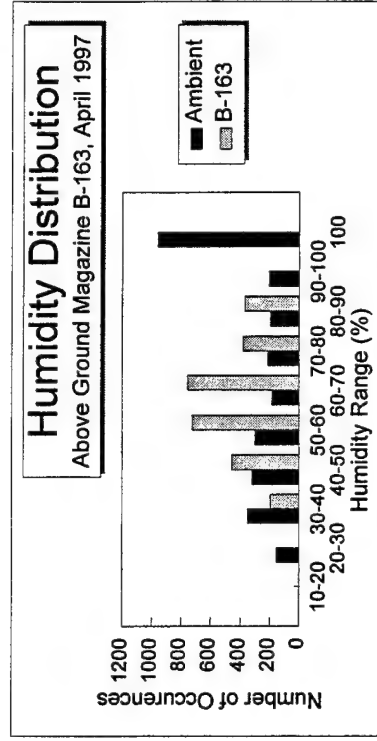
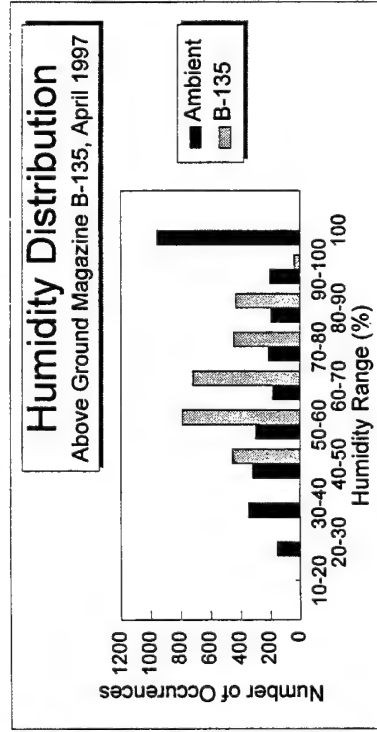
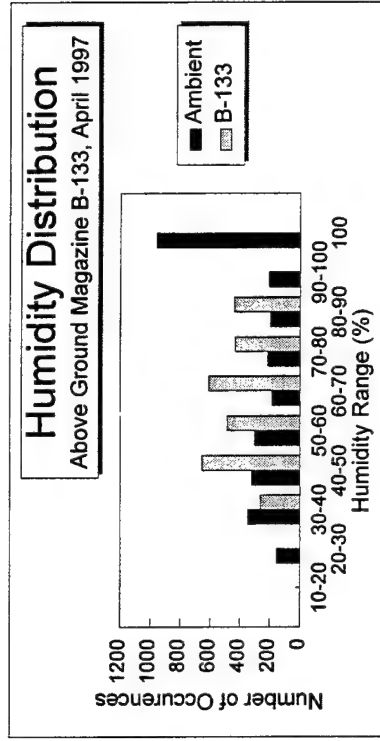
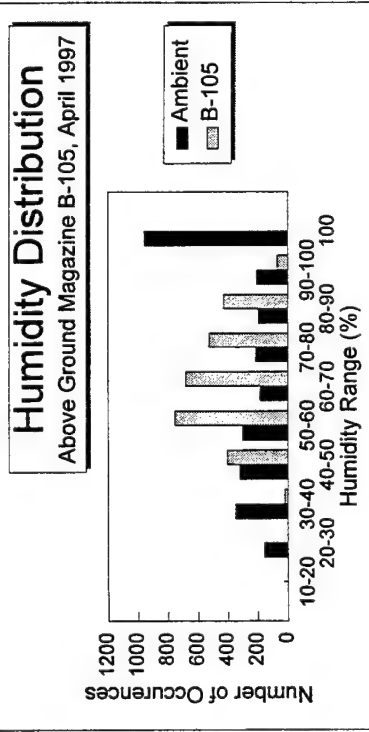
Above Ground Magazine B-437, March 1997



Humidity Distribution

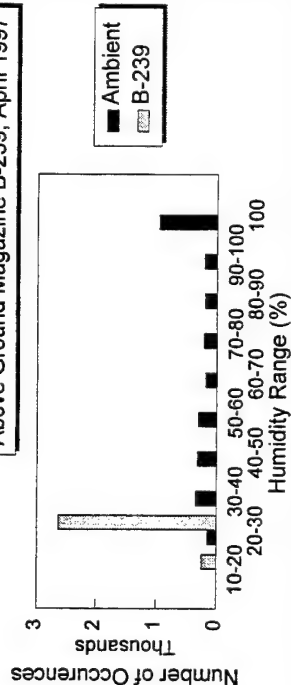
Igloo B-555, March 1997





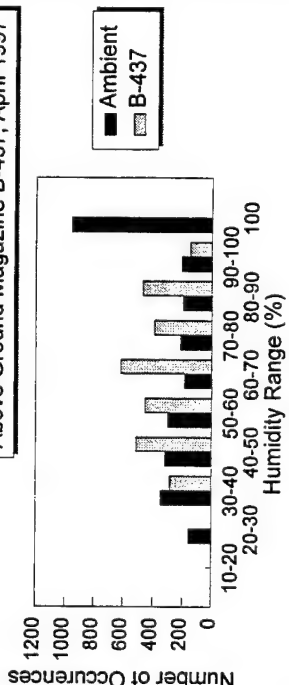
Humidity Distribution

Above Ground Magazine B-239, April 1997



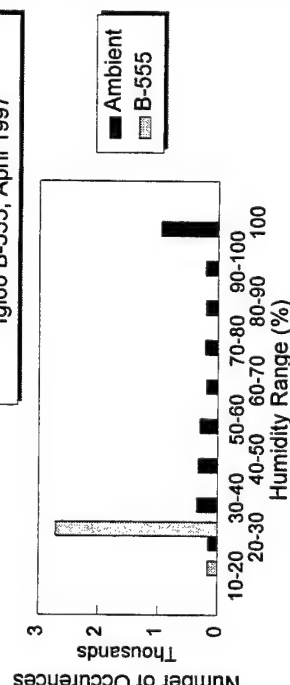
Humidity Distribution

Above Ground Magazine B-437, April 1997



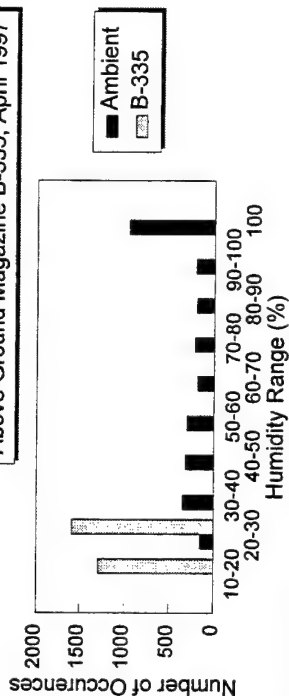
Humidity Distribution

Igloo B-555, April 1997



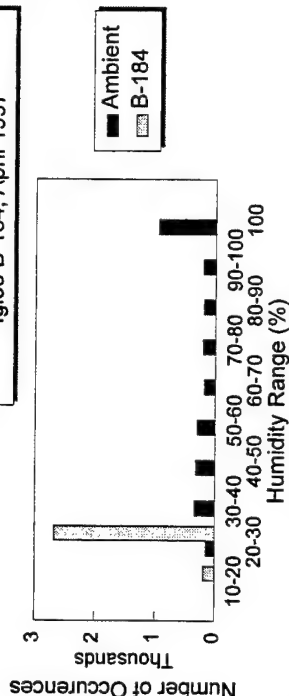
Humidity Distribution

Above Ground Magazine B-335, April 1997



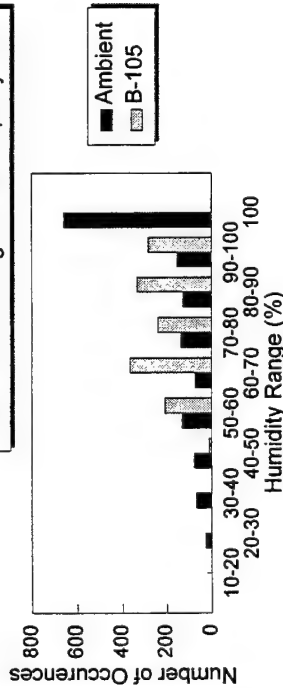
Humidity Distribution

Igloo B-184, April 1997



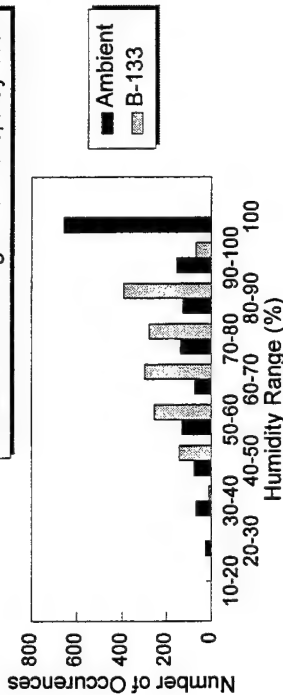
Humidity Distribution

Above Ground Magazine B-105, May 1997



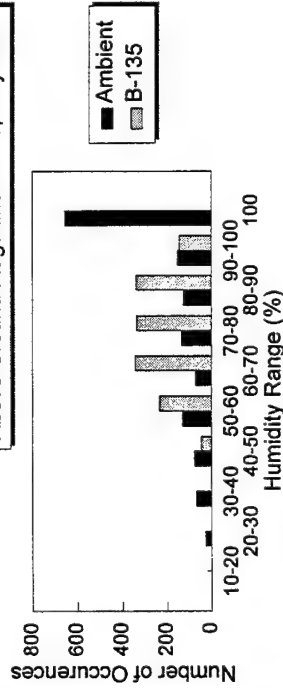
Humidity Distribution

Above Ground Magazine B-133, May 1997



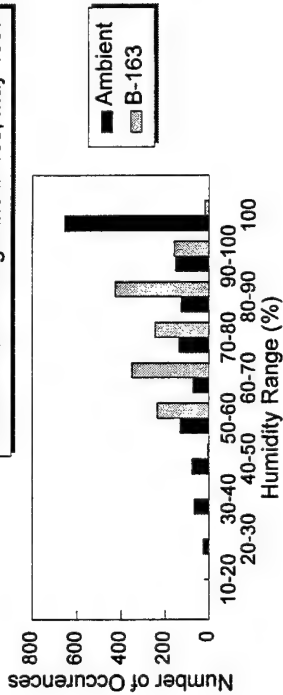
Humidity Distribution

Above Ground Magazine B-135, May 1997



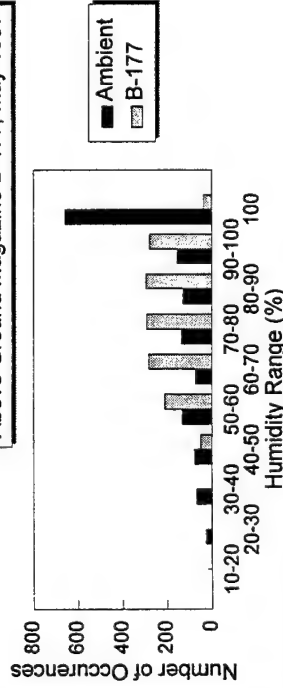
Humidity Distribution

Above Ground Magazine B-163, May 1997



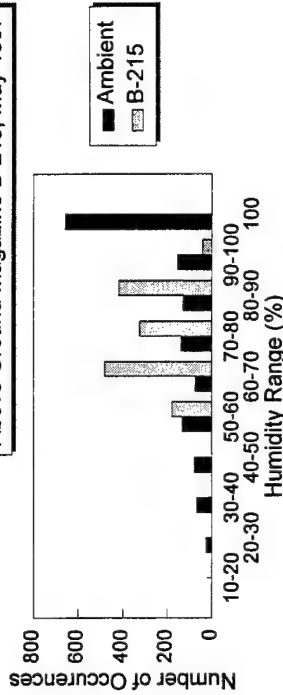
Humidity Distribution

Above Ground Magazine B-177, May 1997



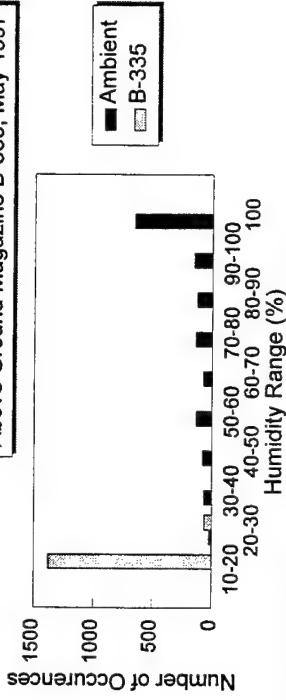
Humidity Distribution

Above Ground Magazine B-215, May 1997



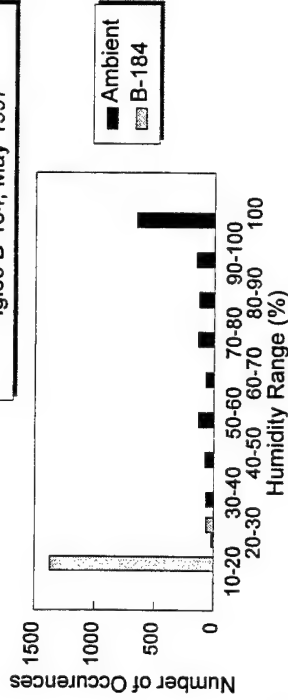
Humidity Distribution

Above Ground Magazine B-335, May 1997



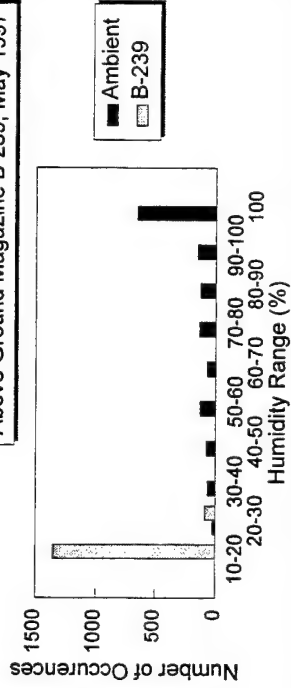
Humidity Distribution

Igloo B-184, May 1997



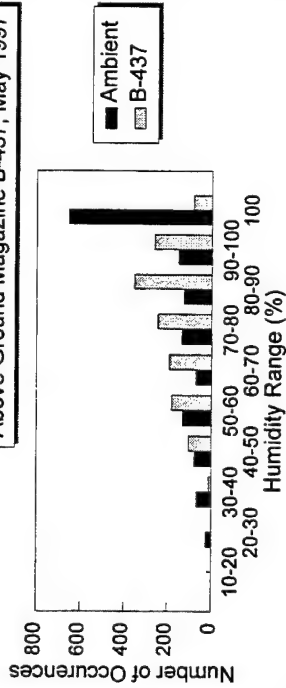
Humidity Distribution

Above Ground Magazine B-239, May 1997



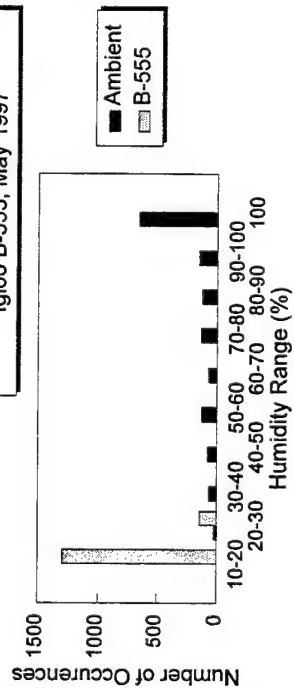
Humidity Distribution

Above Ground Magazine B-437, May 1997

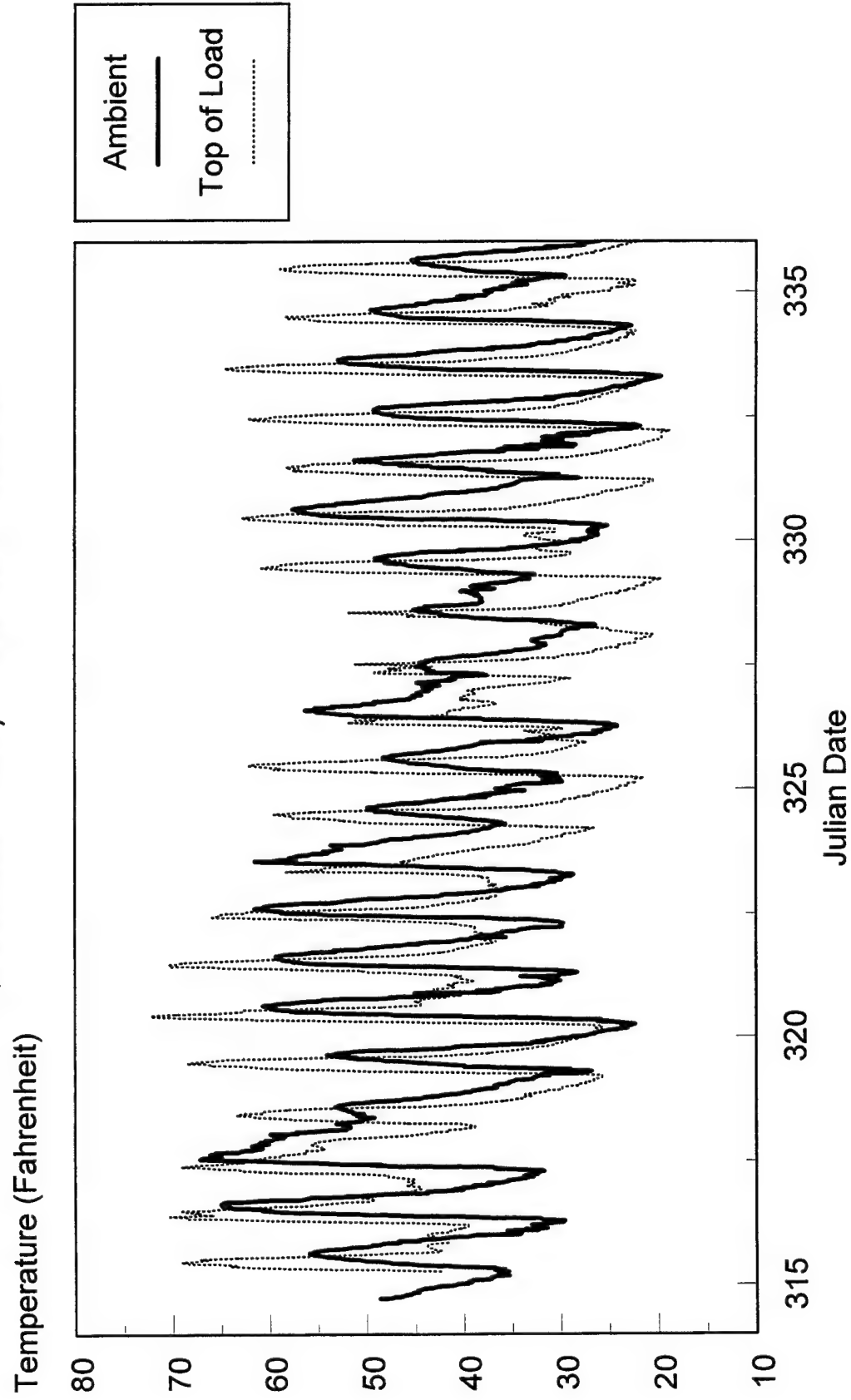


Humidity Distribution

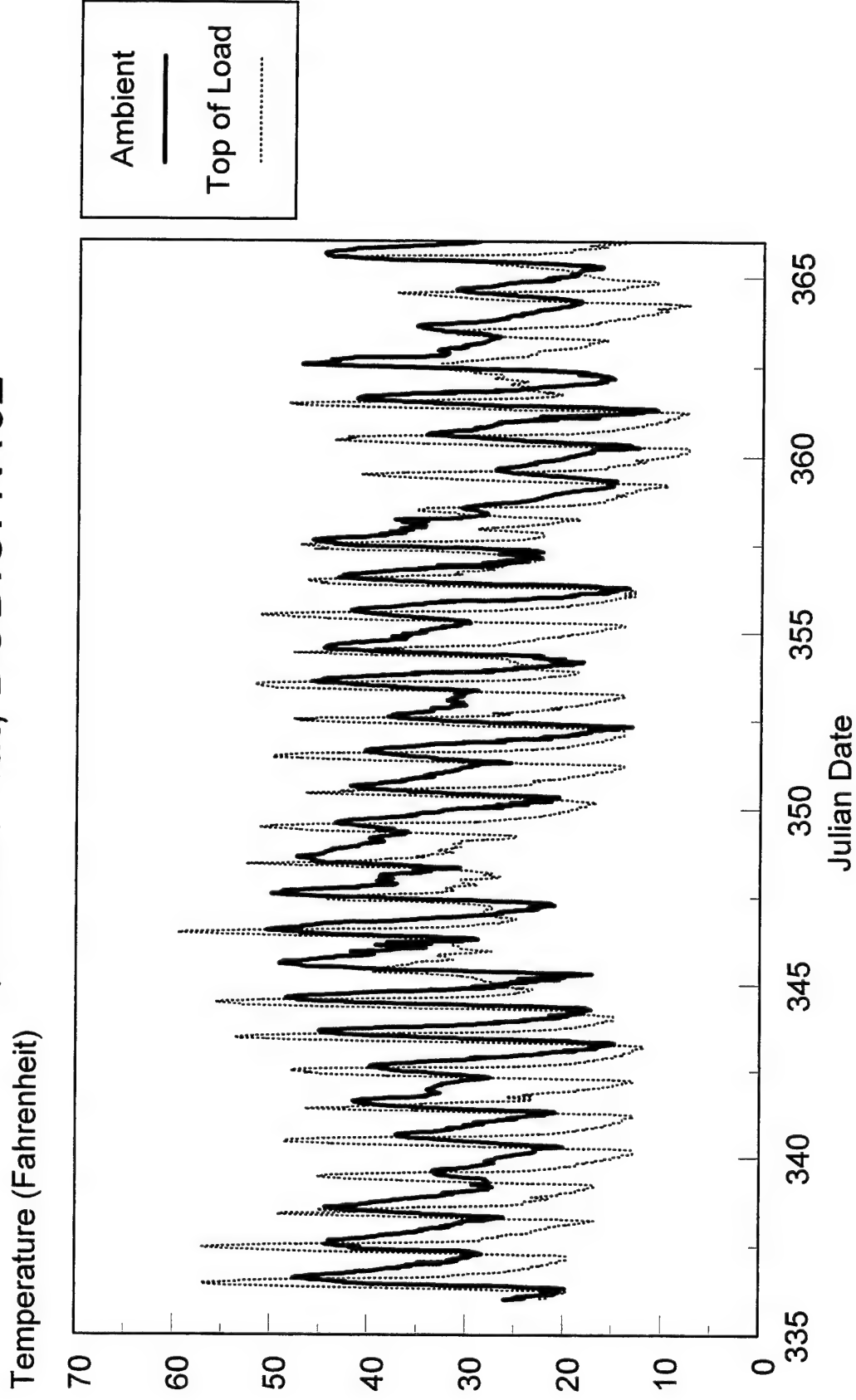
Igloo B-555, May 1997



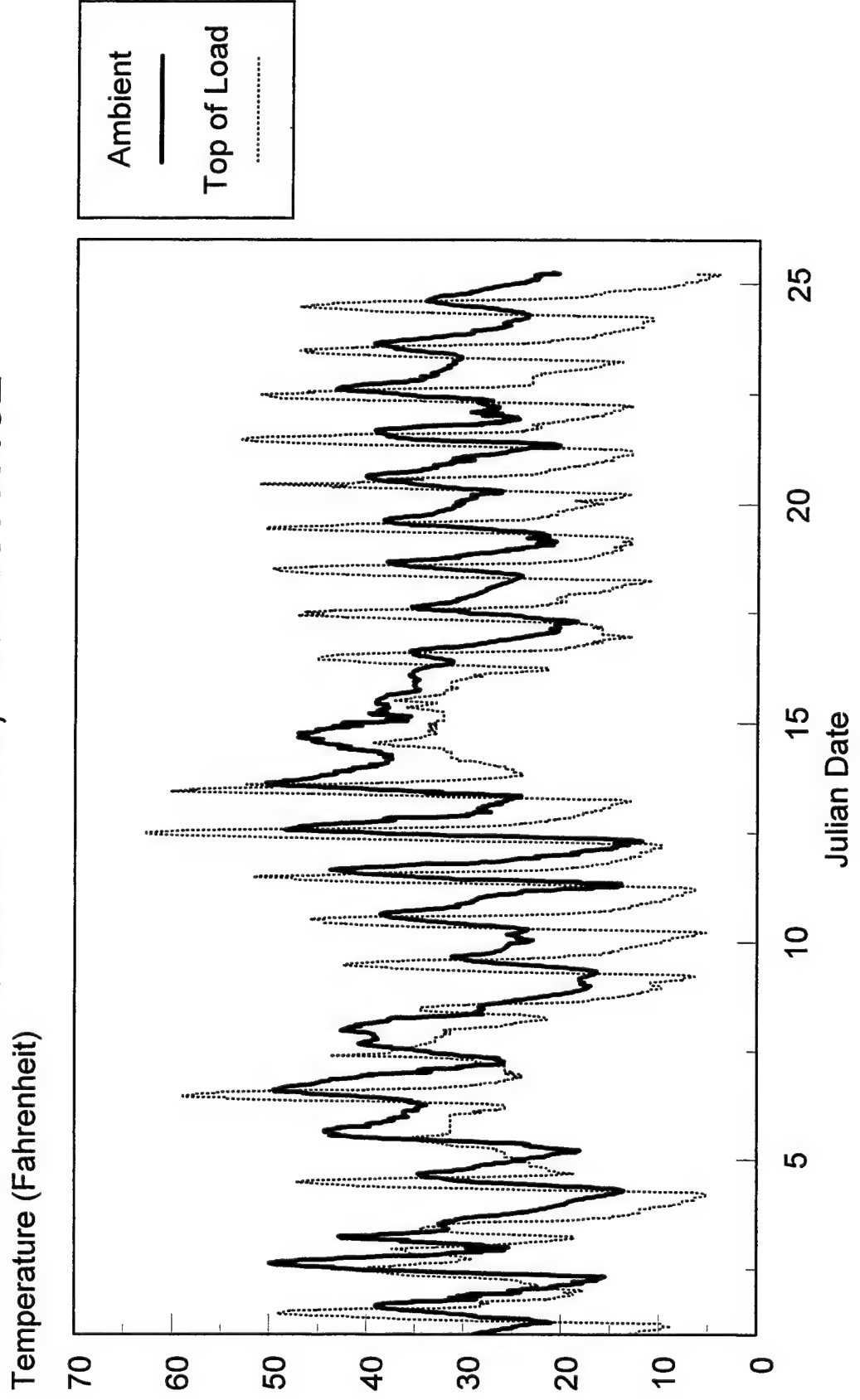
1995 Ammunition Storage Monitoring
2nd ID, South Korea
Quonset Hut, DODIC: N402



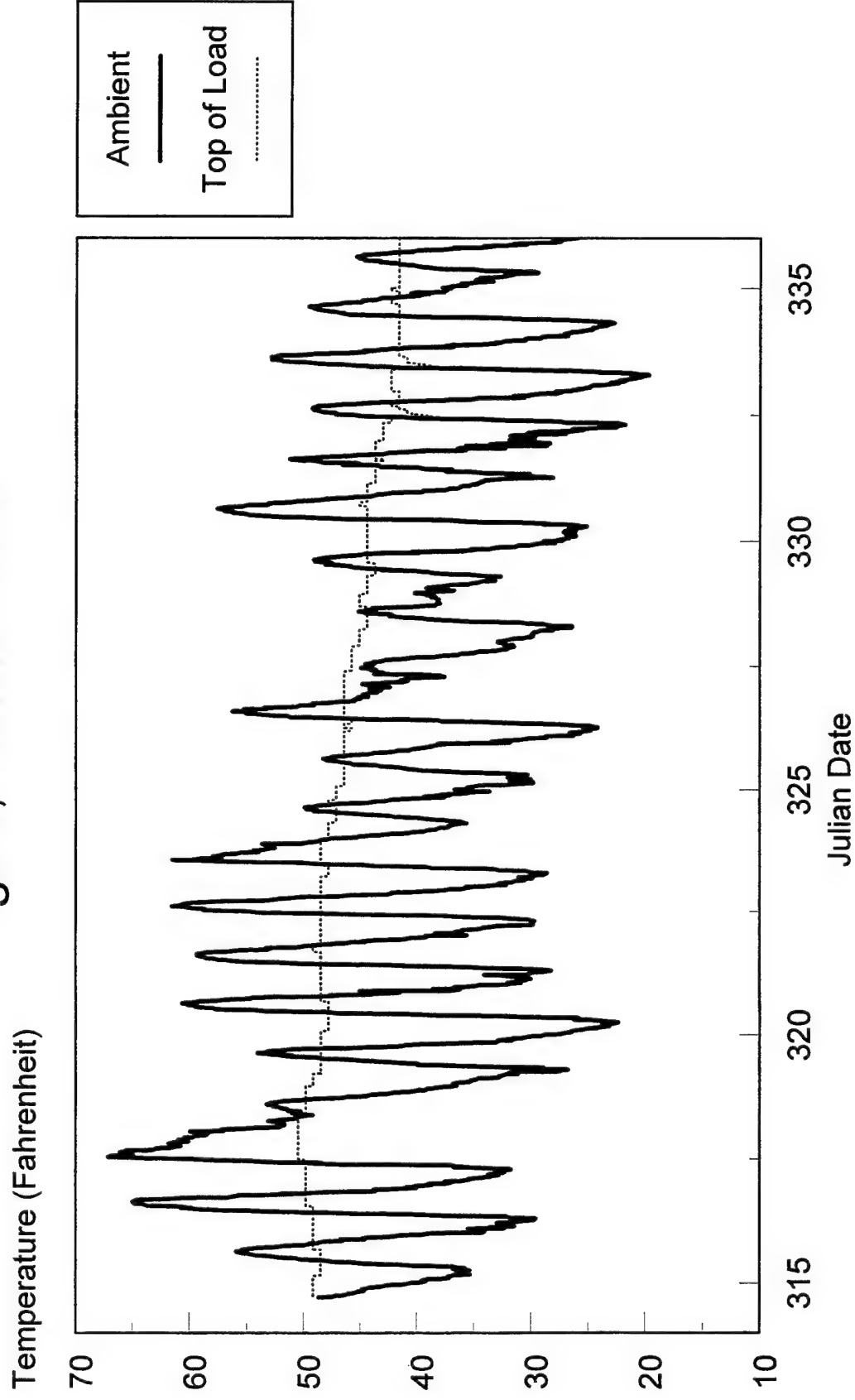
1995 Ammunition Storage Monitoring
2nd ID, South Korea
Quonset Hut, DODIC: N402



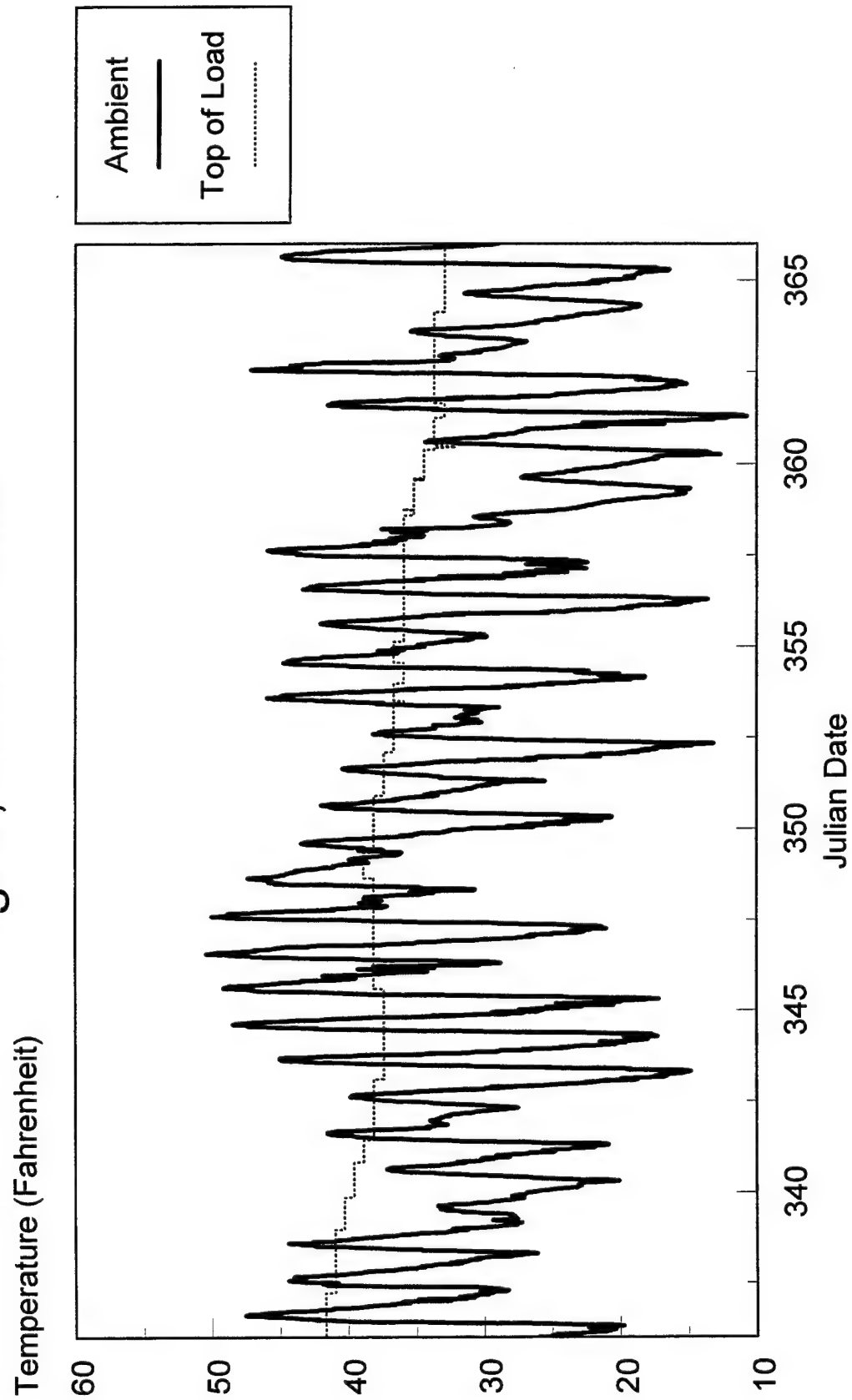
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Quonset Hut, DODIC: N402



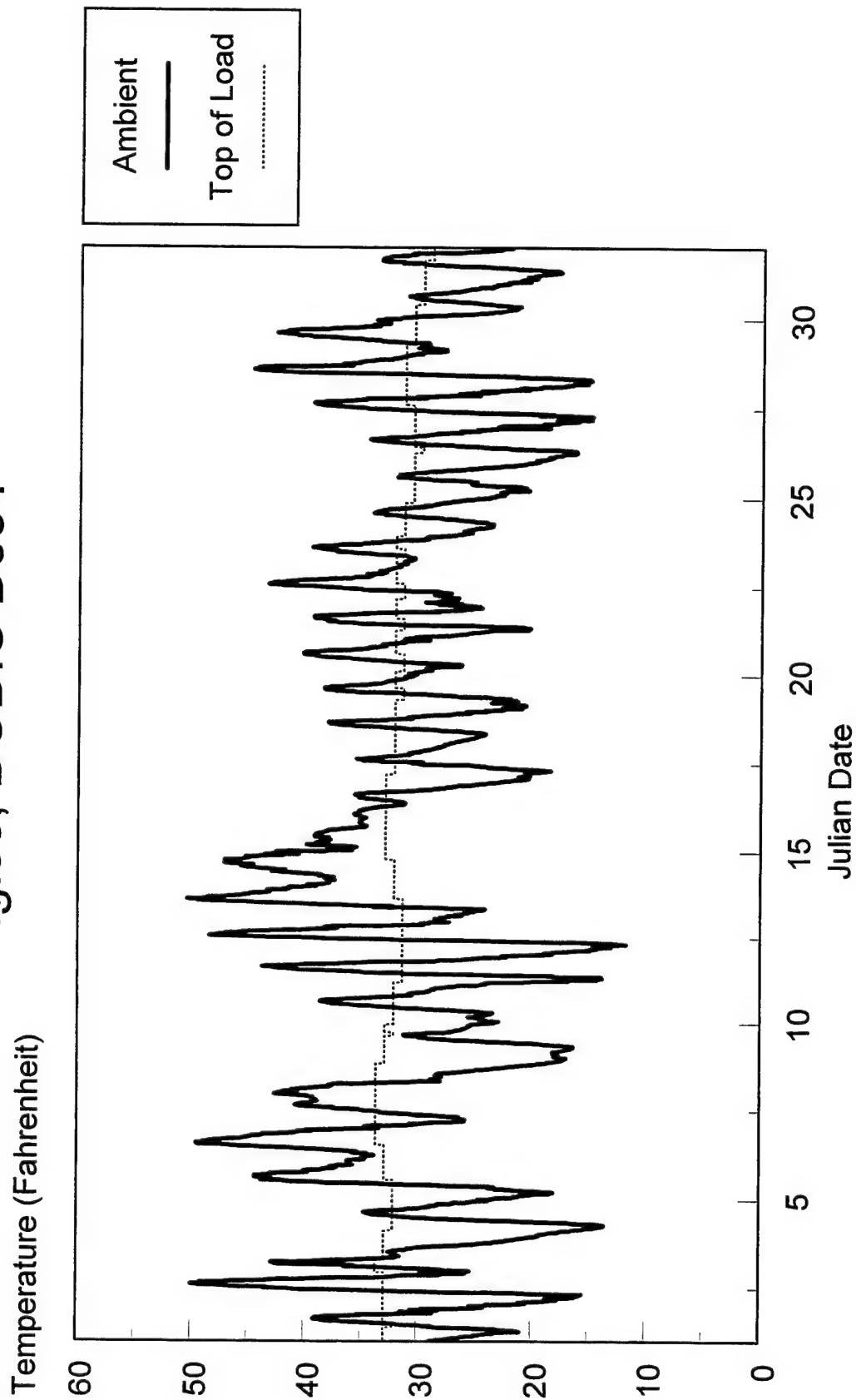
1995 Ammunition Storage Monitoring
2nd ID, South Korea
Igloo, DODIC D684



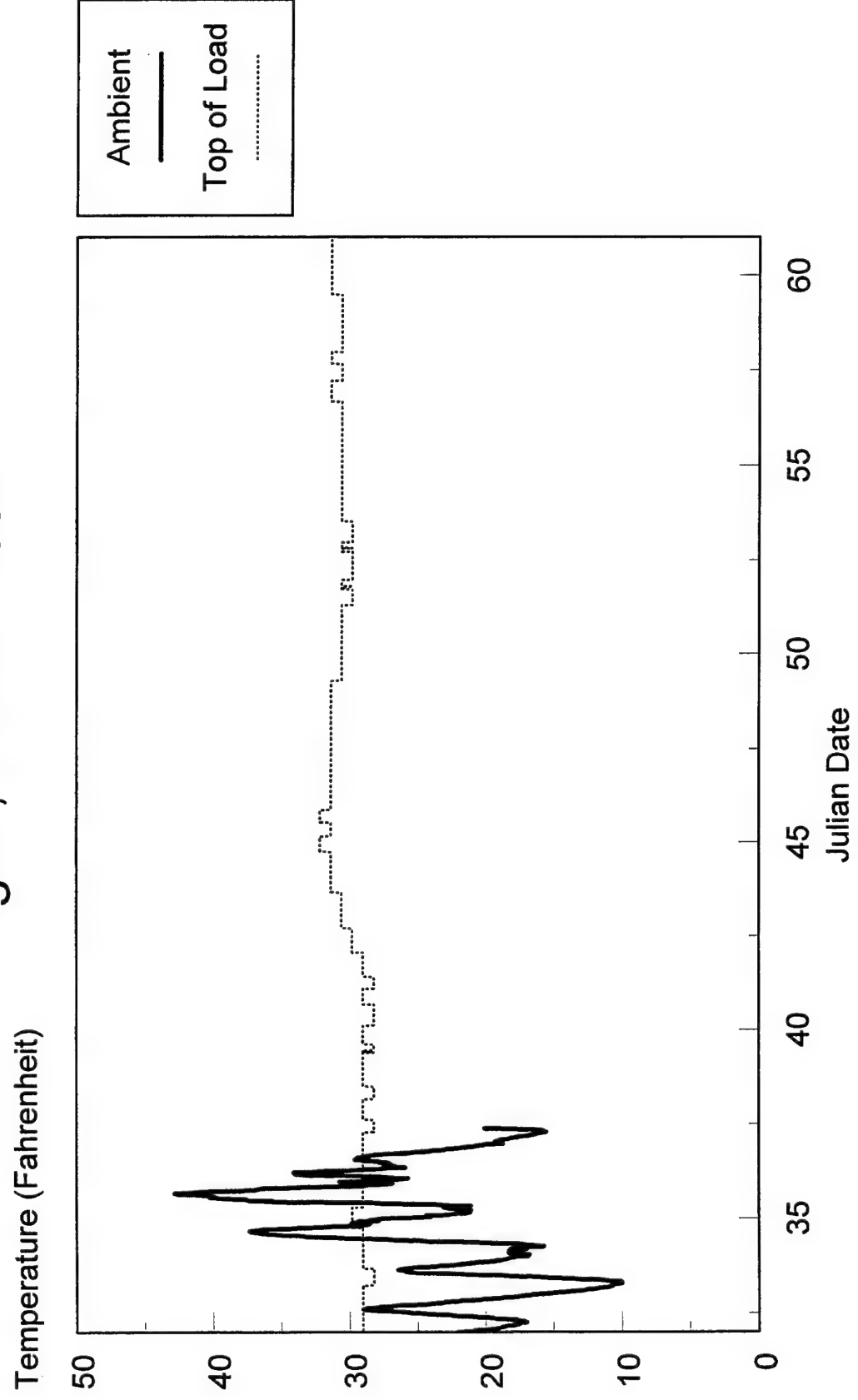
1995 Ammunition Storage Monitoring
2nd ID, South Korea
Igloo, DODIC D684



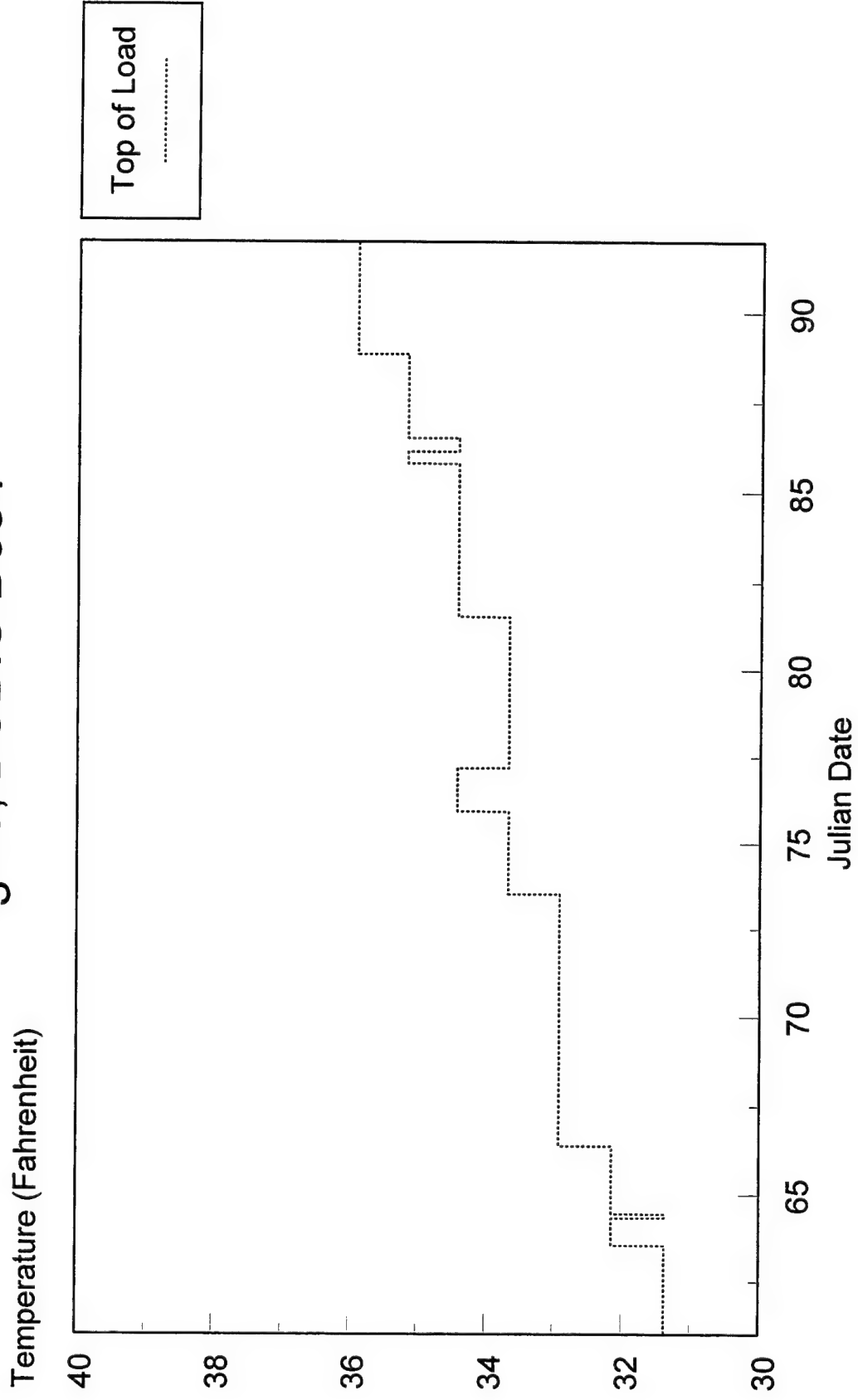
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Igloo, DODIC D684



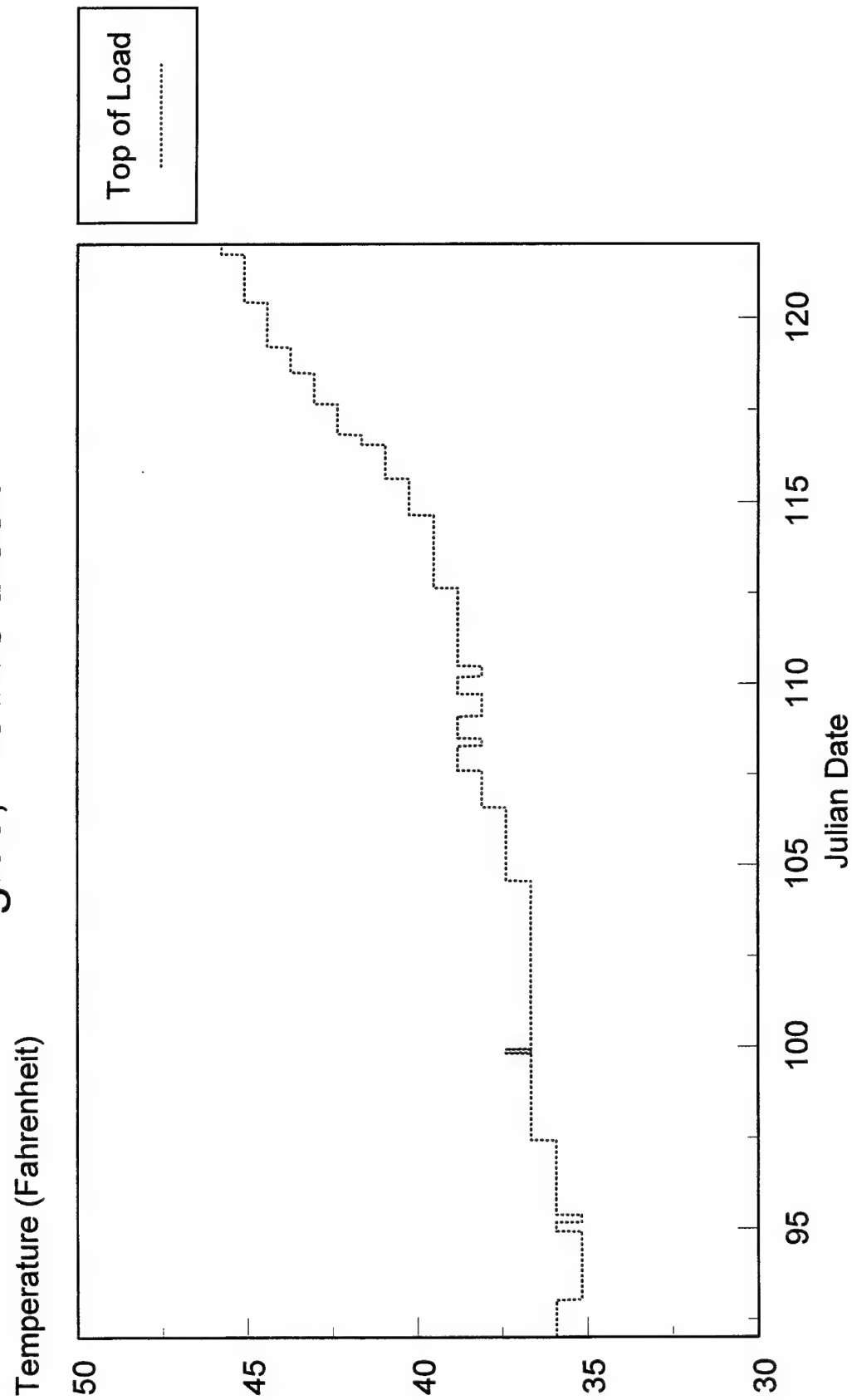
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Igloo, DODIC D684



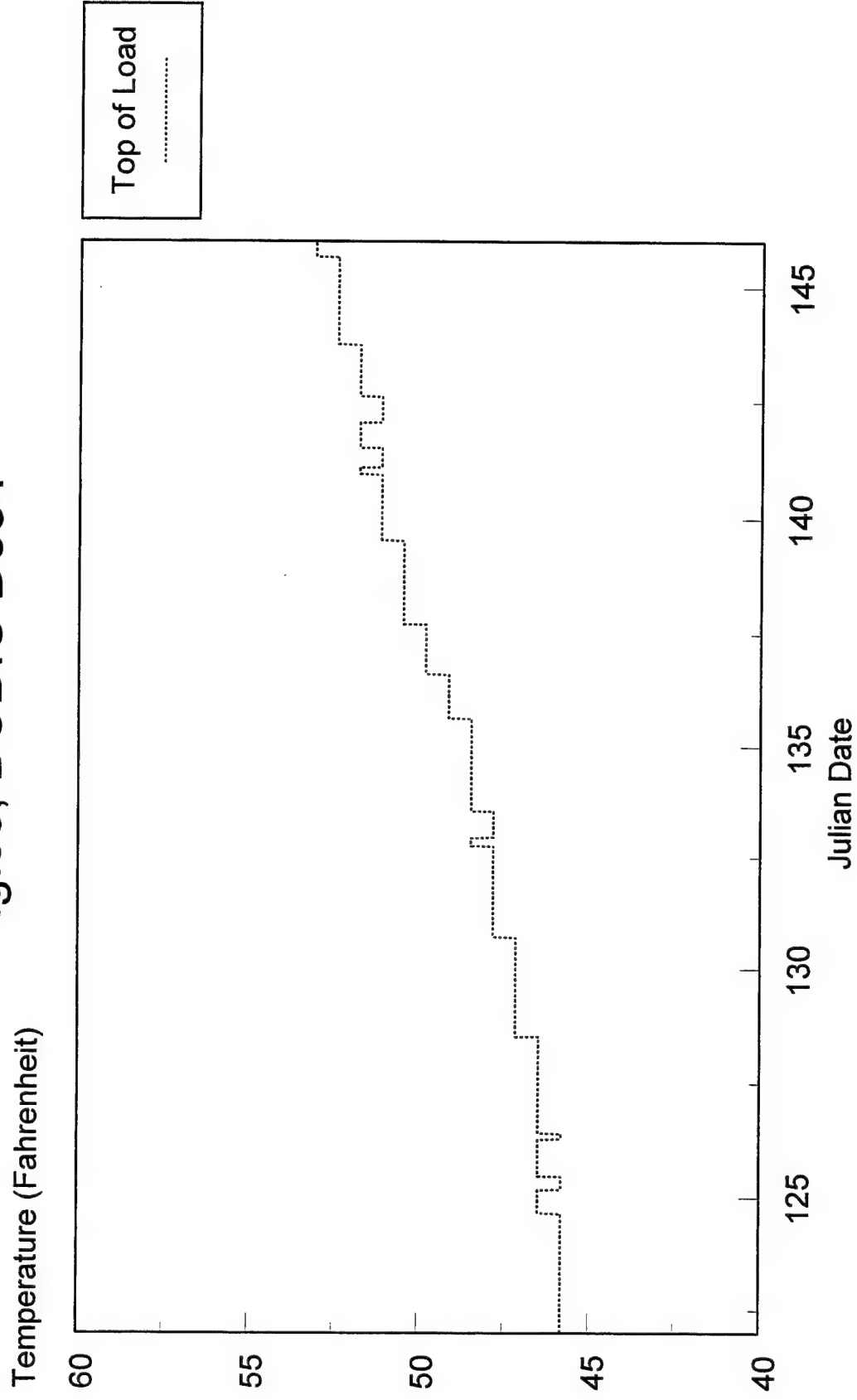
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Igloo, DODIC D684



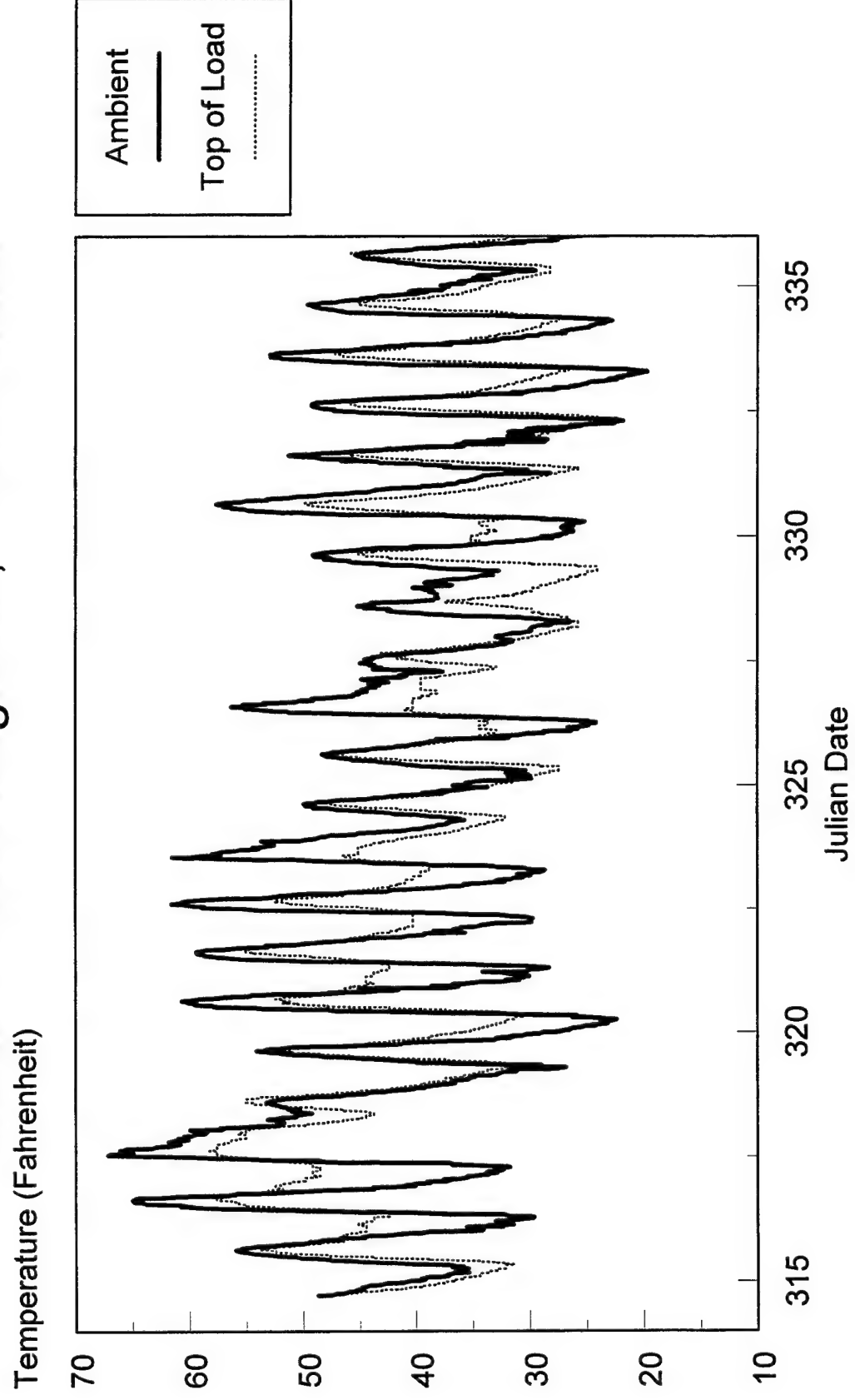
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Igloo, DODIC D684



1996 Ammunition Storage Monitoring 2nd ID, South Korea Igloo, DODIC D684

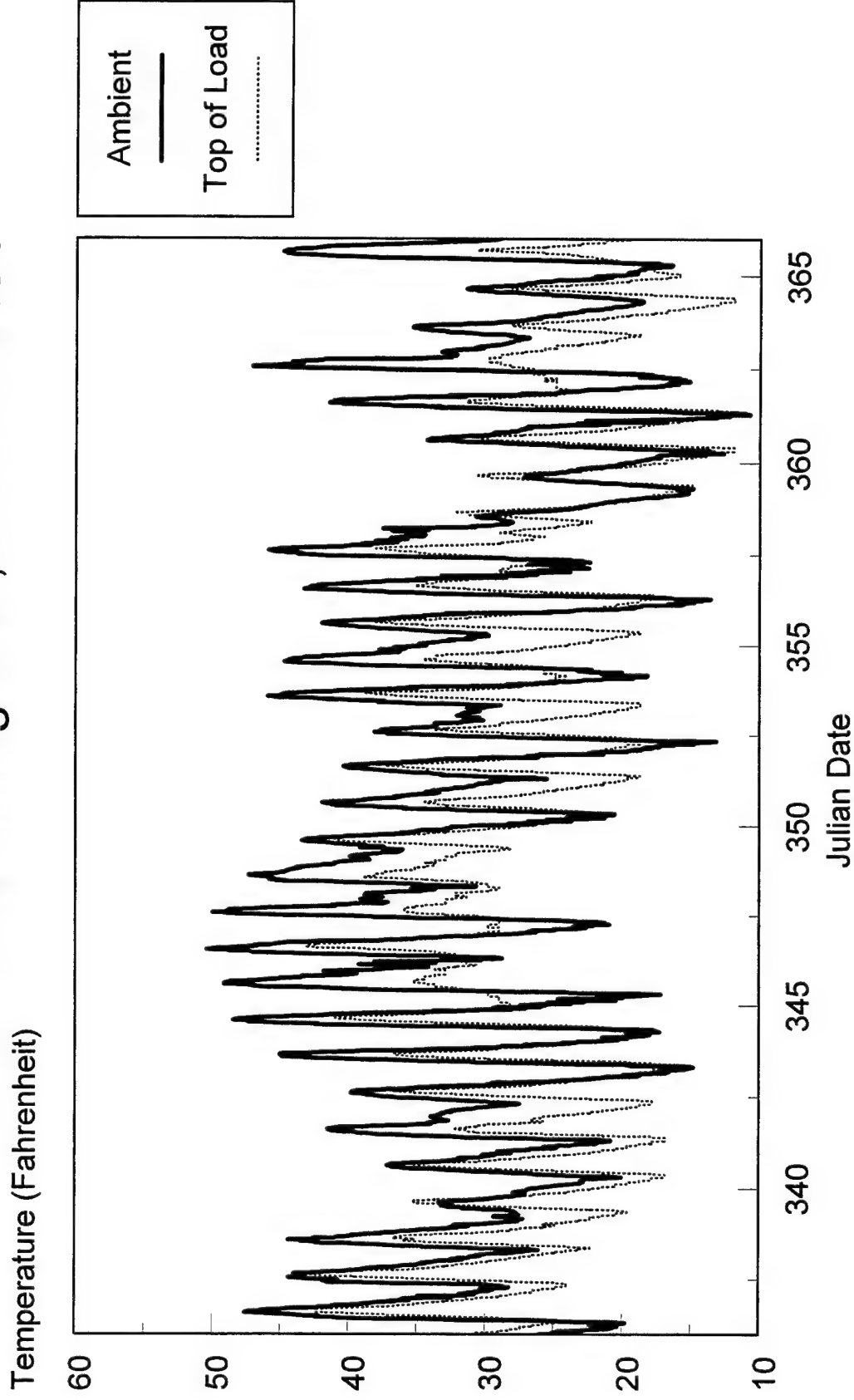


1995 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC:N464

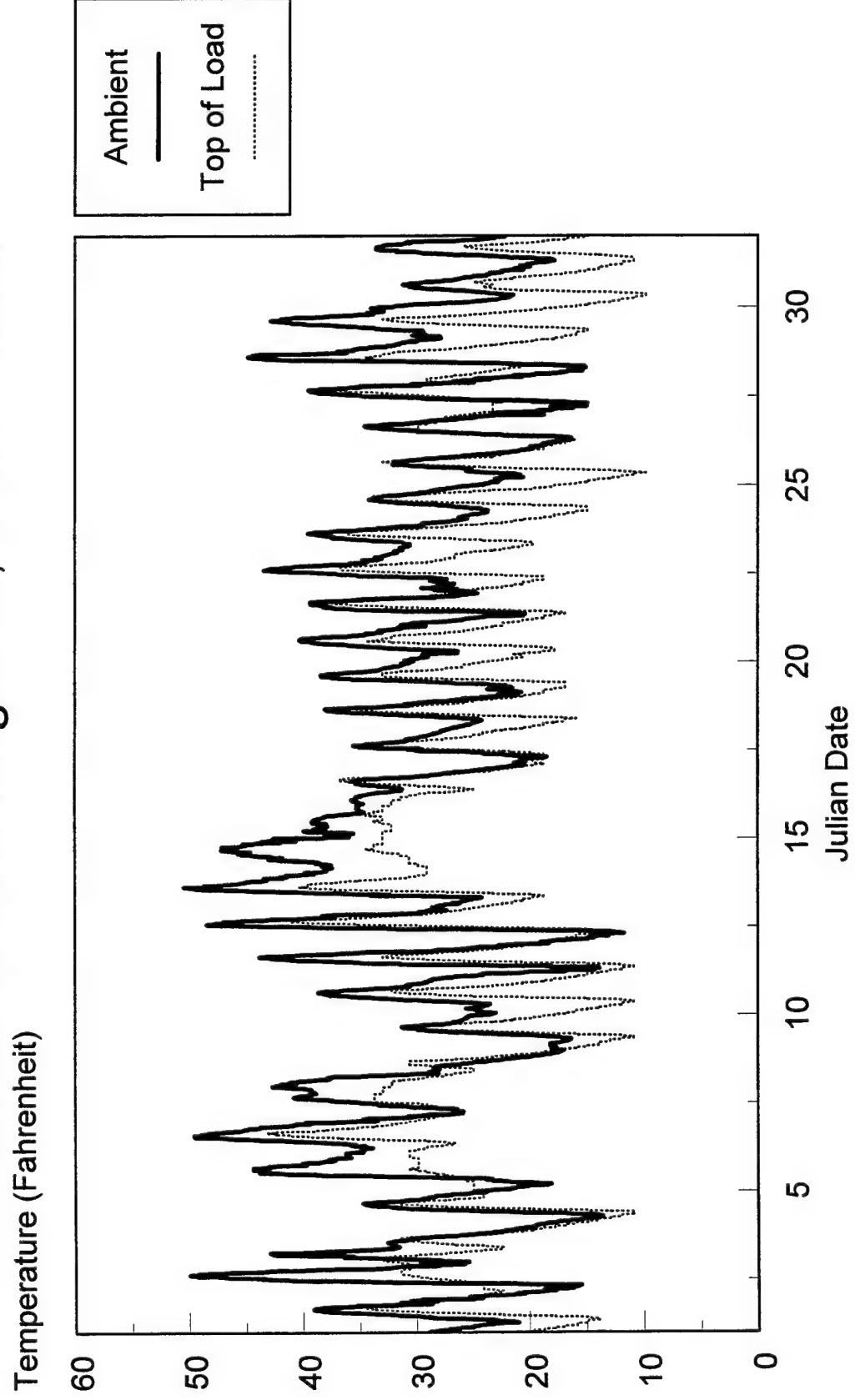


1995 Ammunition Storage Monitoring
2nd ID, South Korea

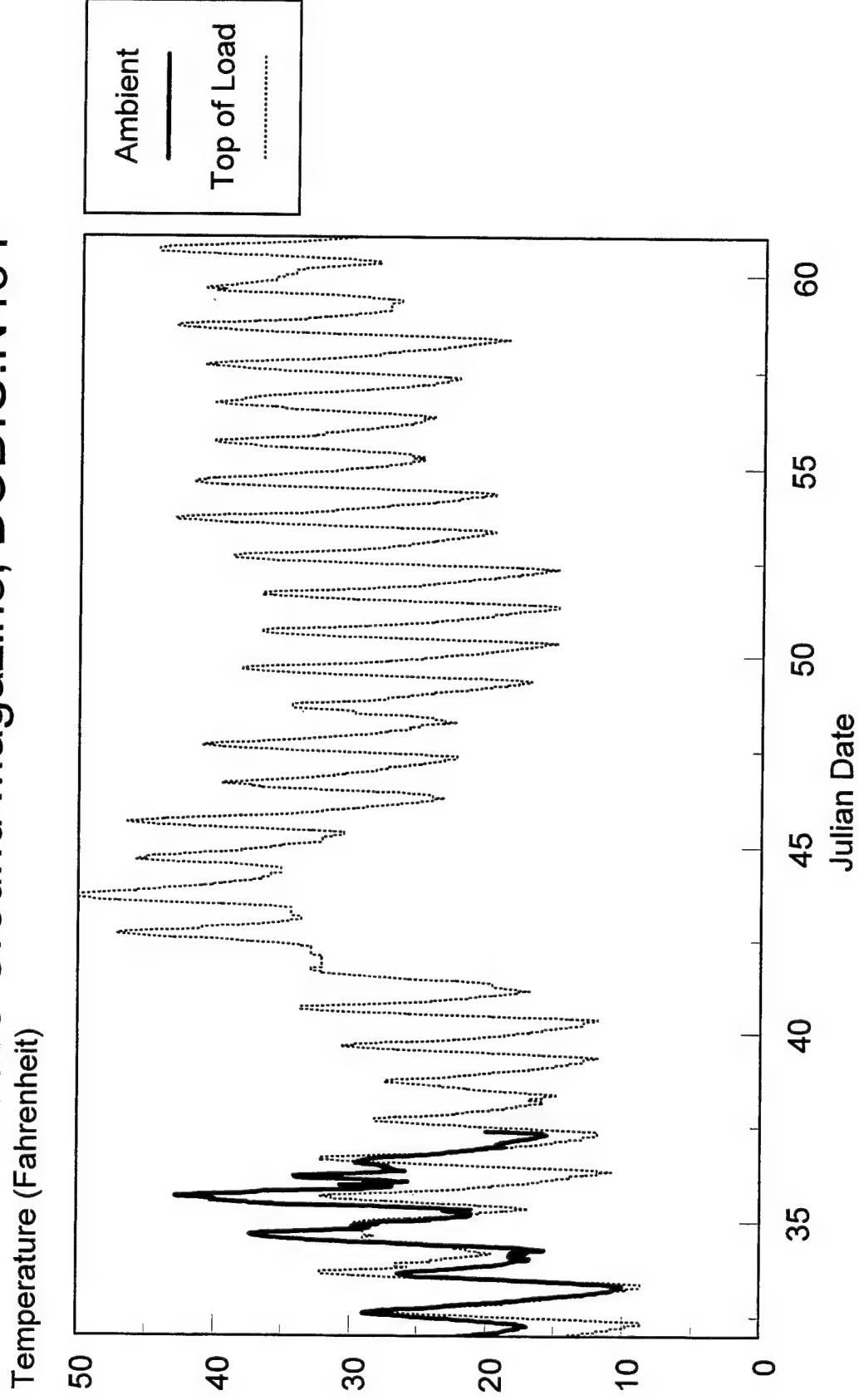
Above Ground Magazine, DODIC:N464



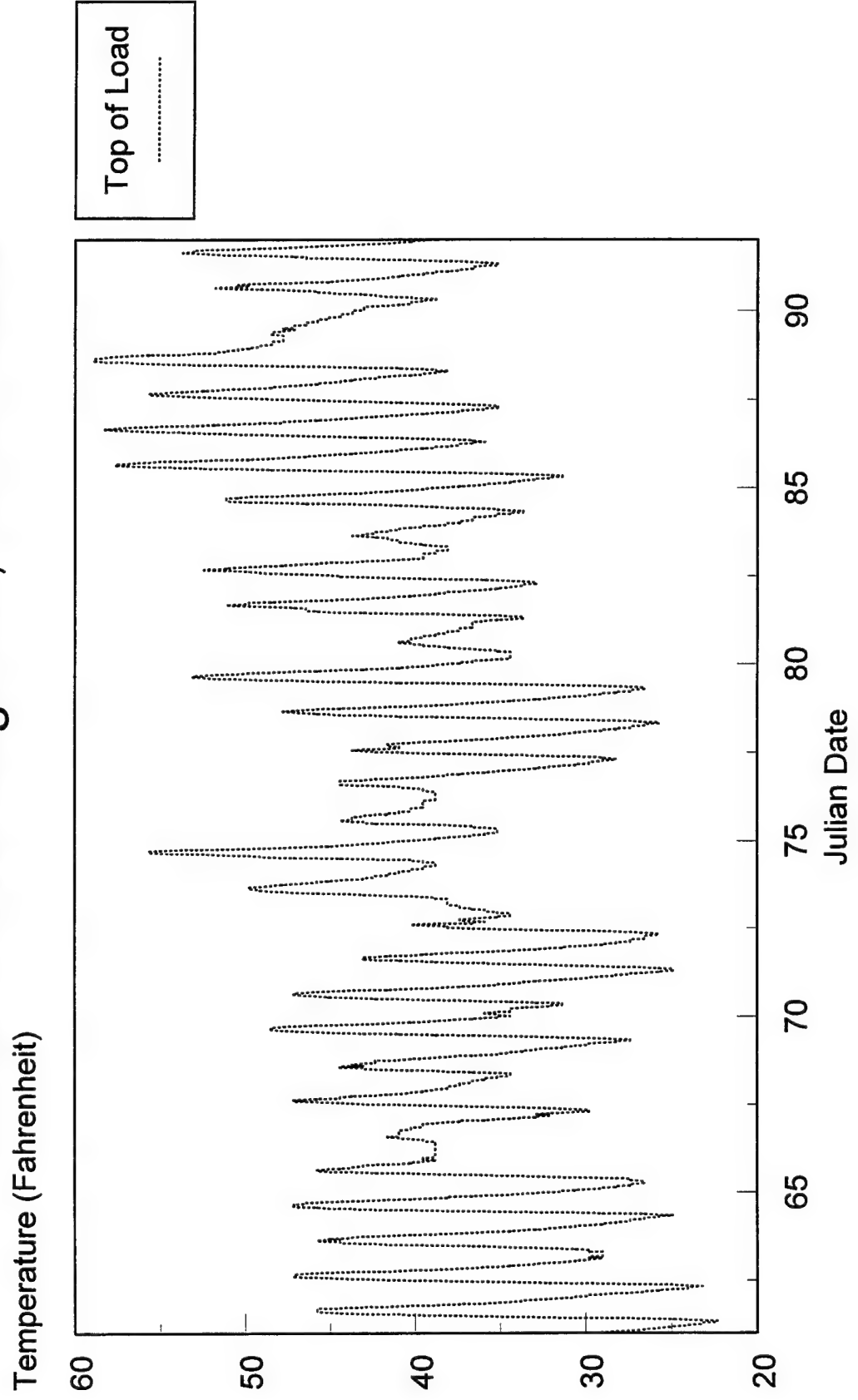
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC:N464



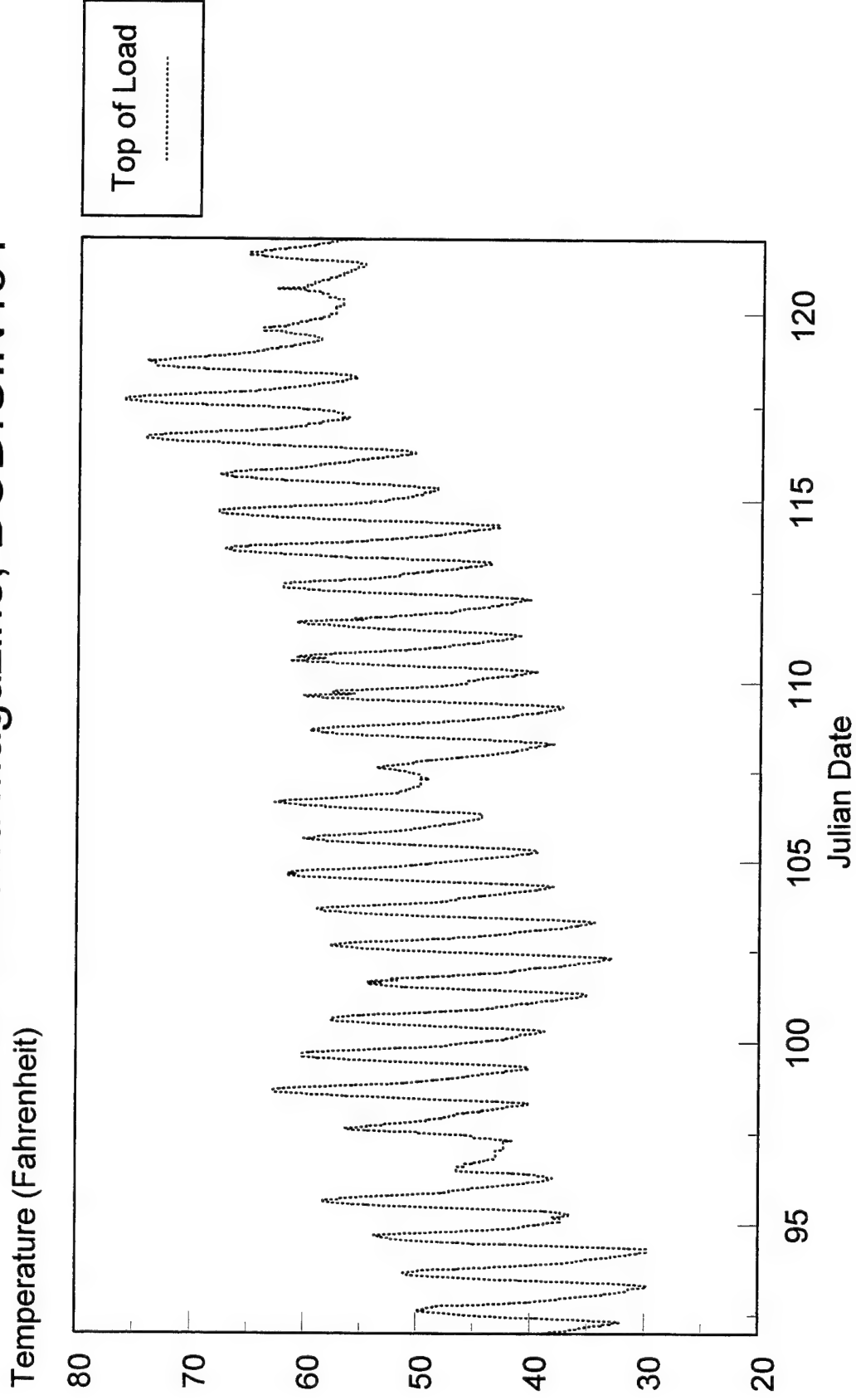
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC:N464



1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC:N464



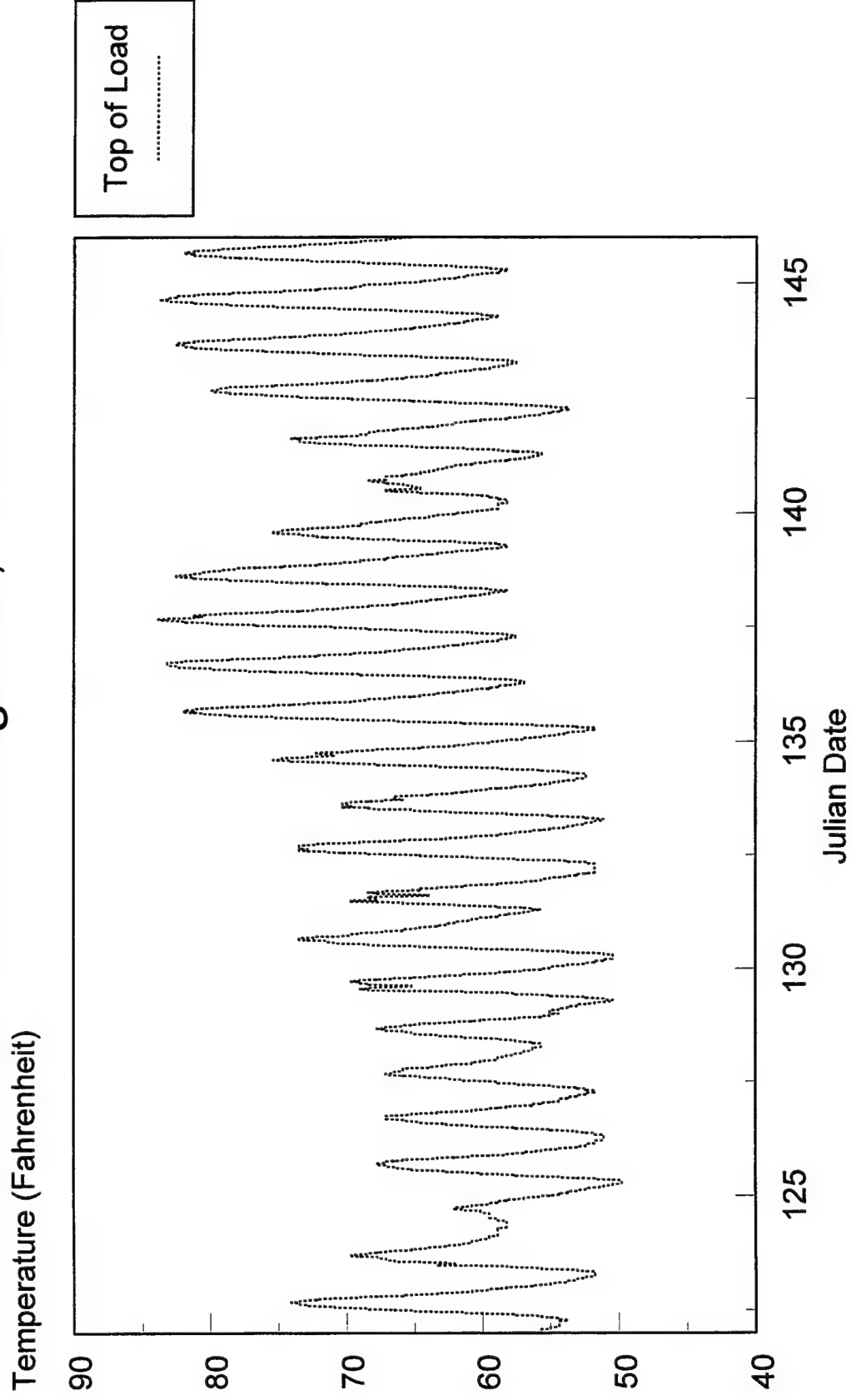
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC:N464



1996 Ammunition Storage Monitoring

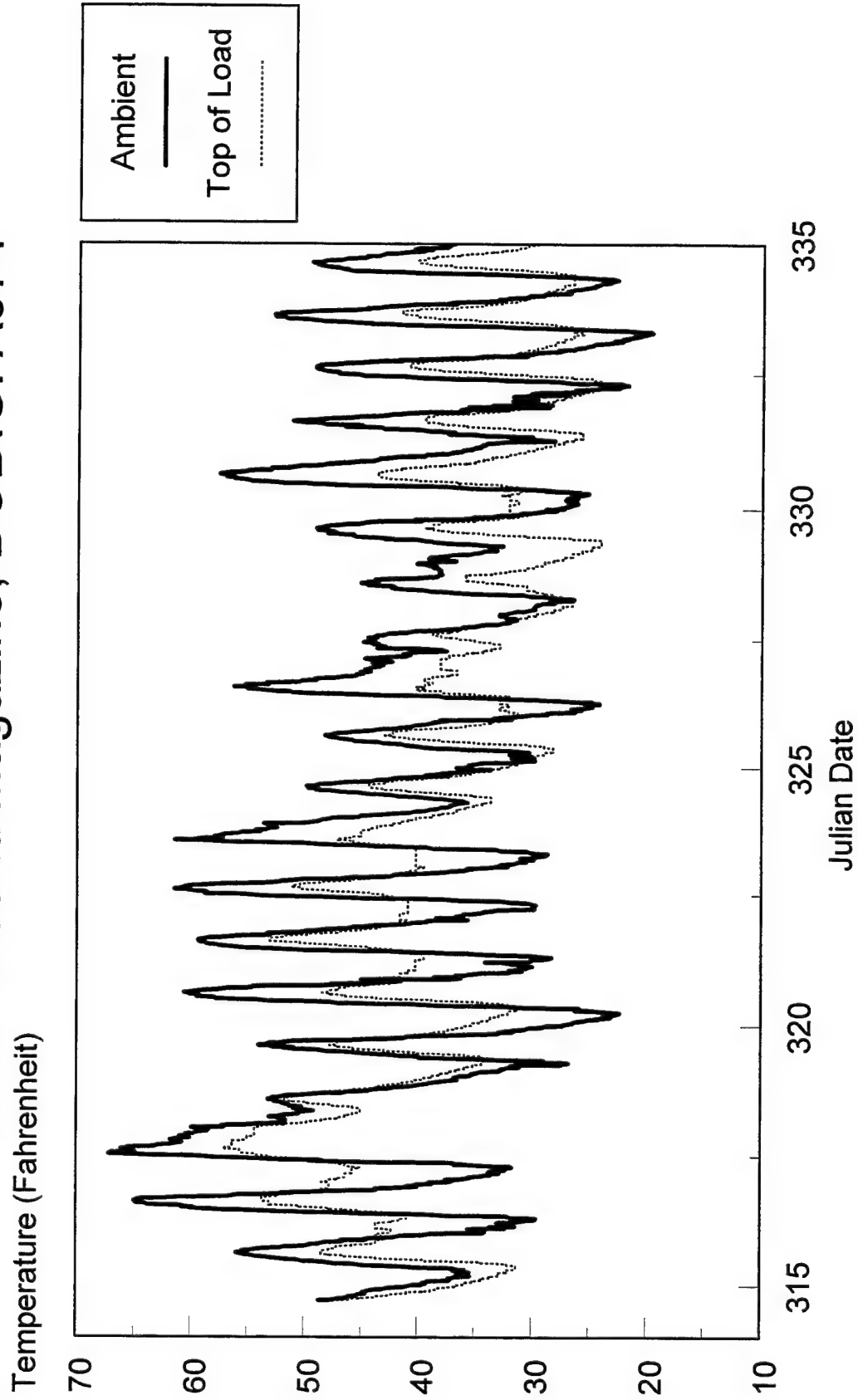
2nd ID, South Korea

Above Ground Magazine, DODIC:N464

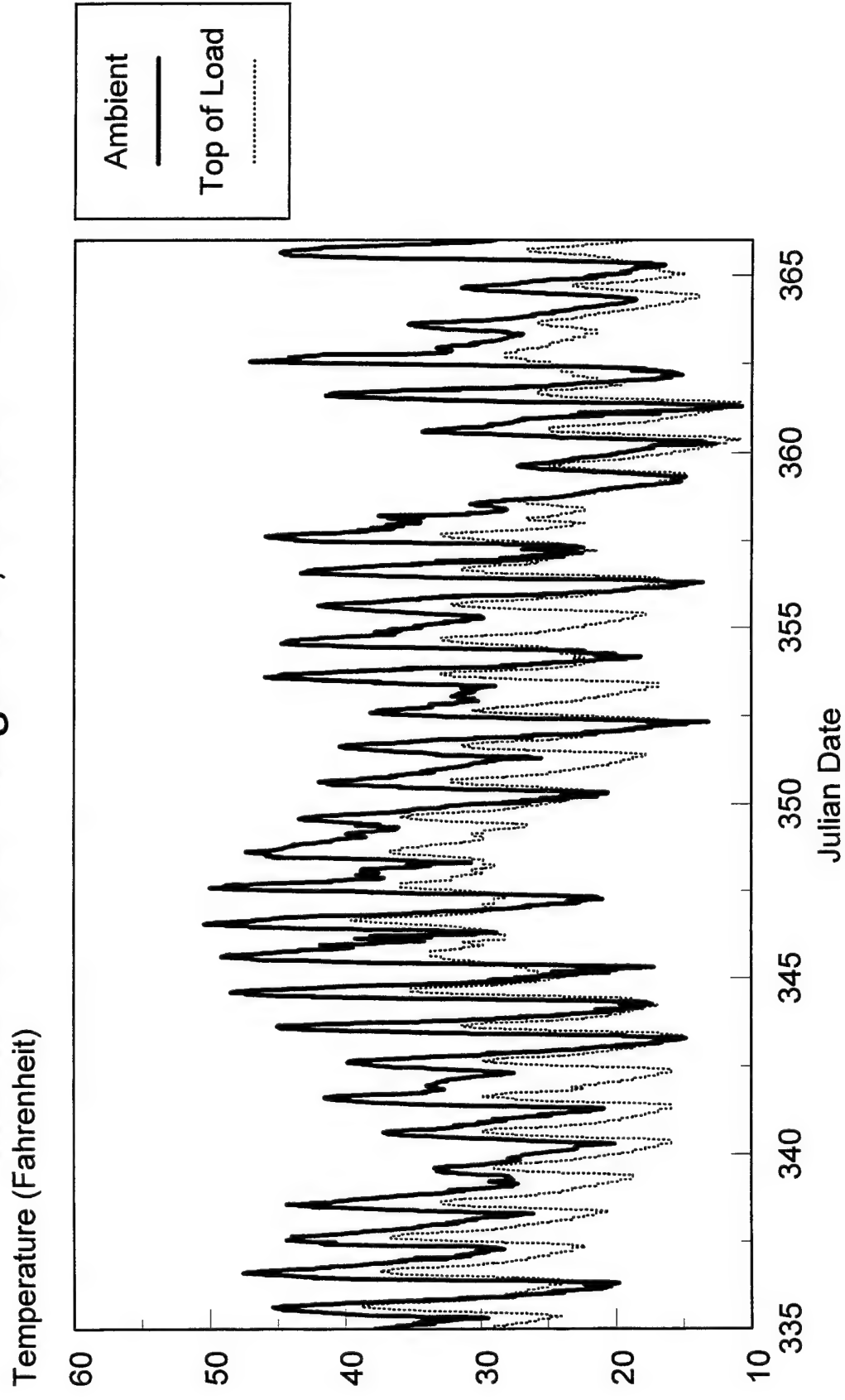


1995 Ammunition Storage Monitoring
2nd ID, South Korea

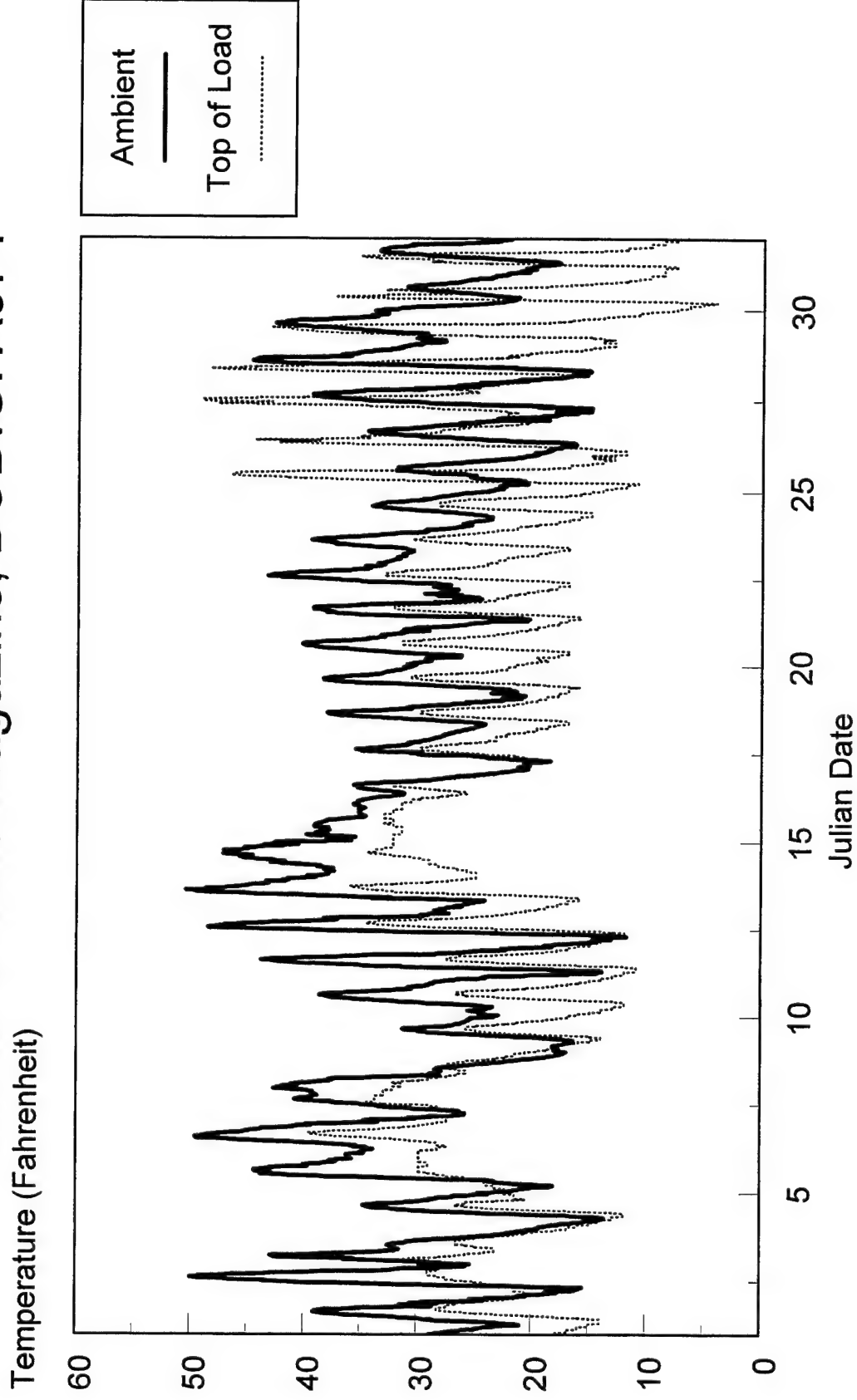
Above Ground Magazine, DODIC: A974



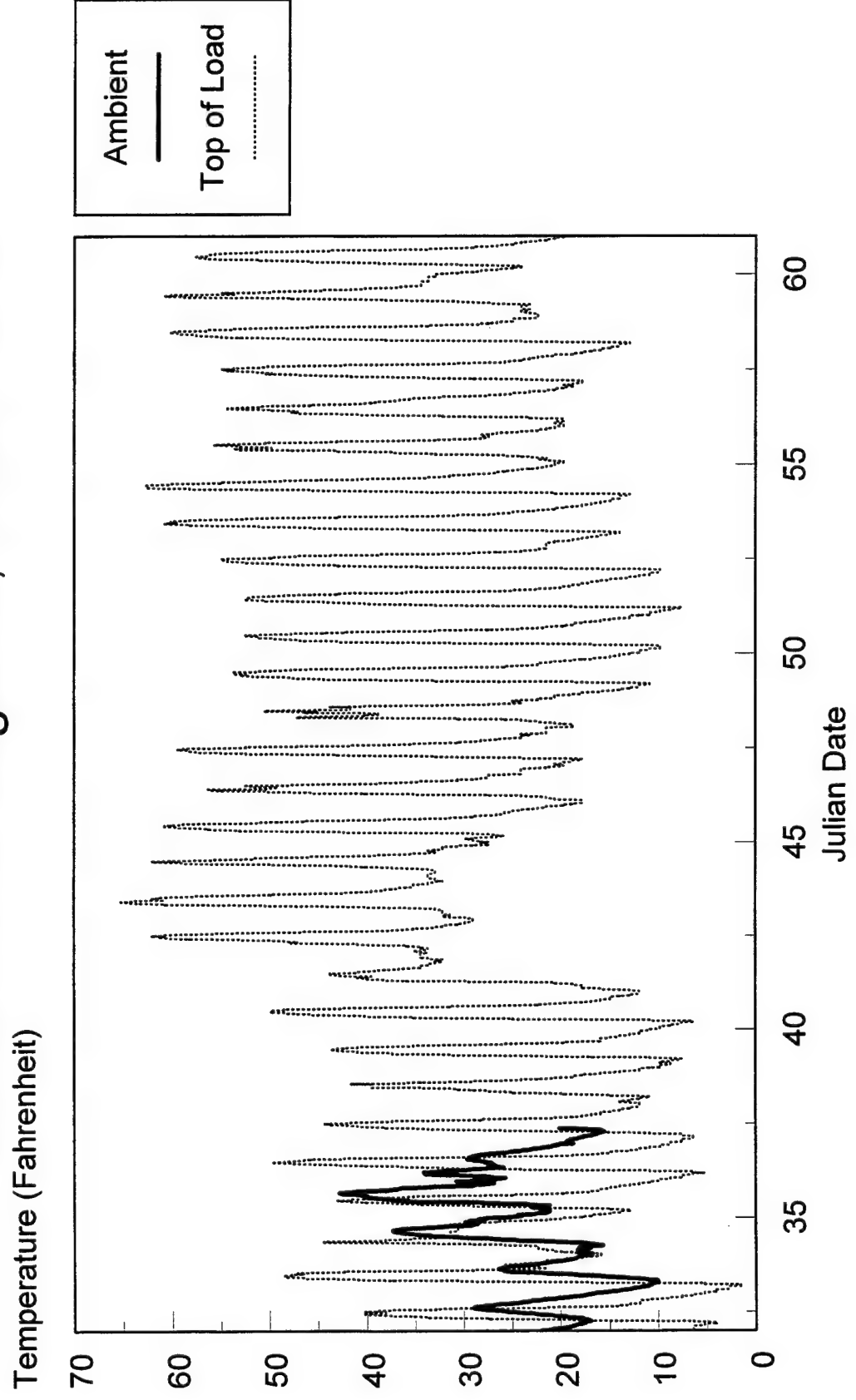
1995 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC: A974



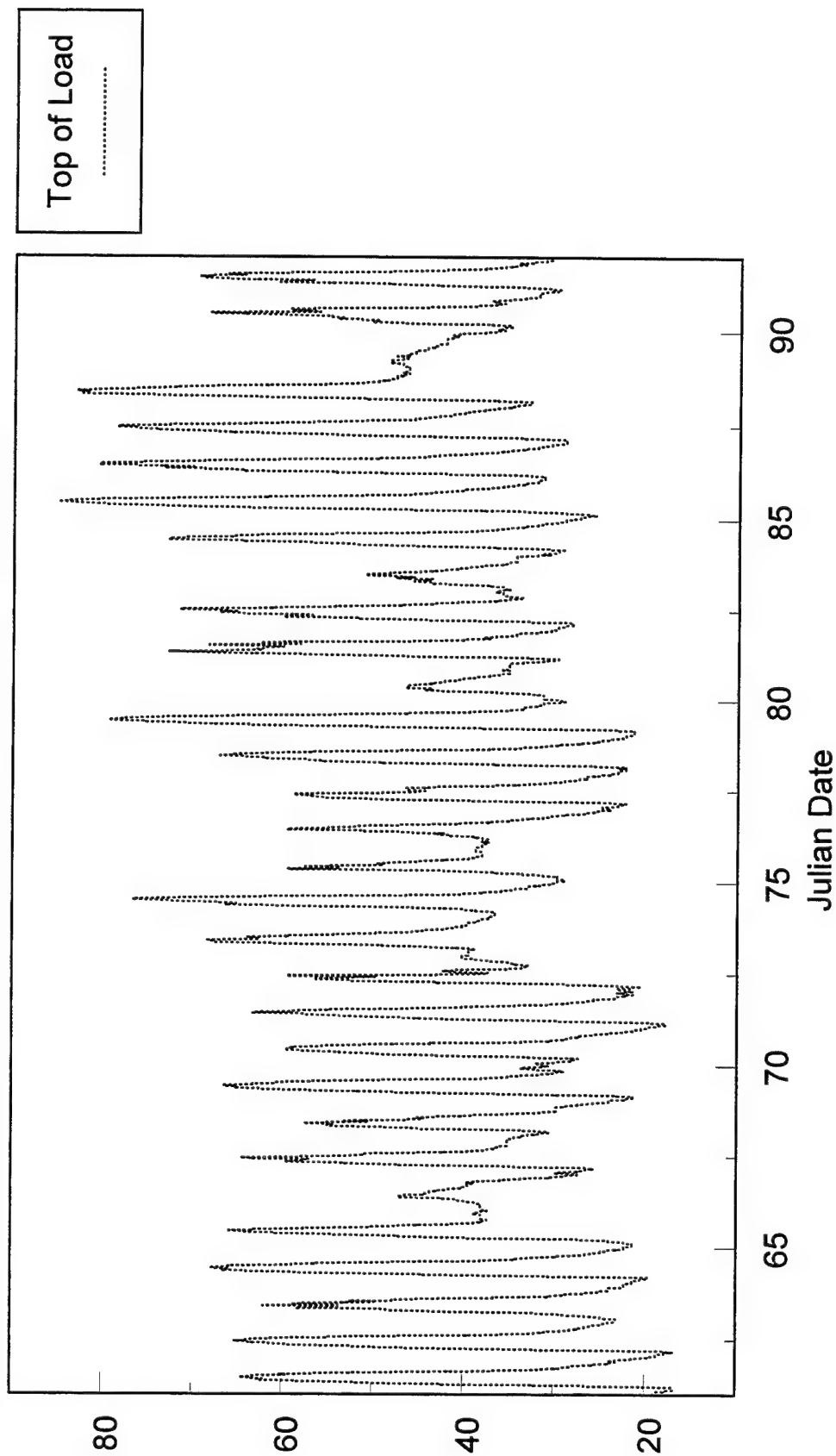
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC: A974



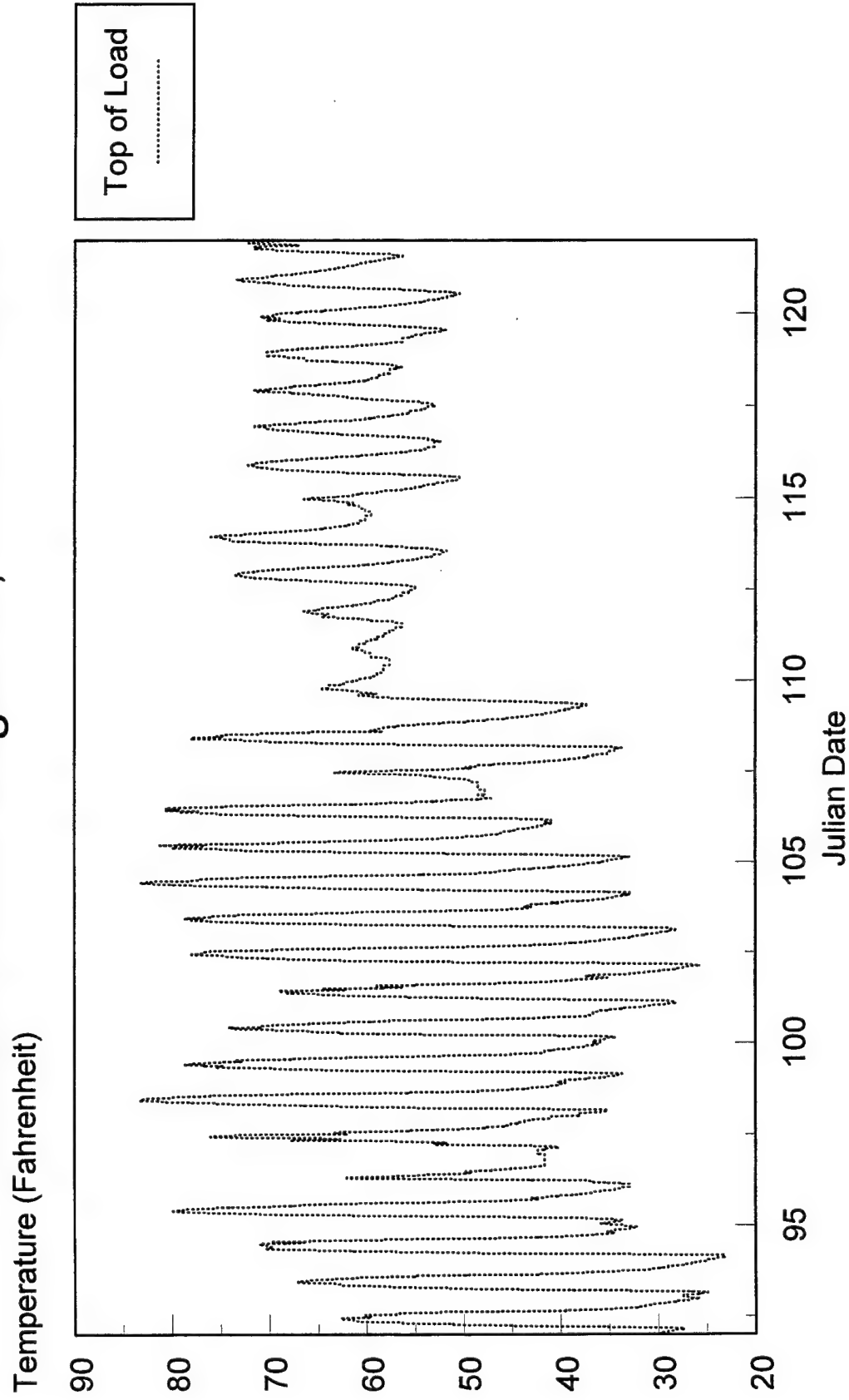
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC: A974



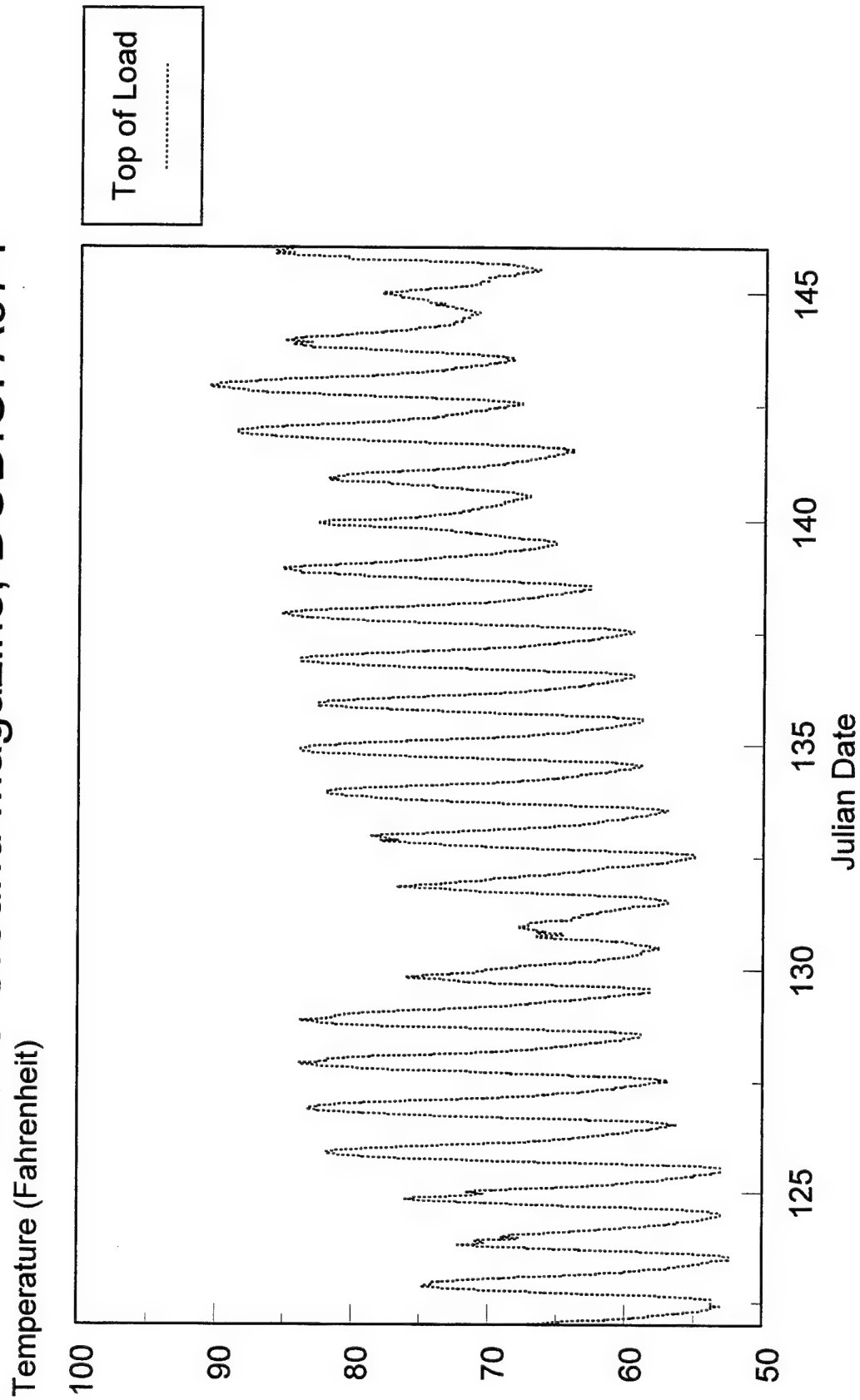
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC: A974
Temperature (Fahrenheit)



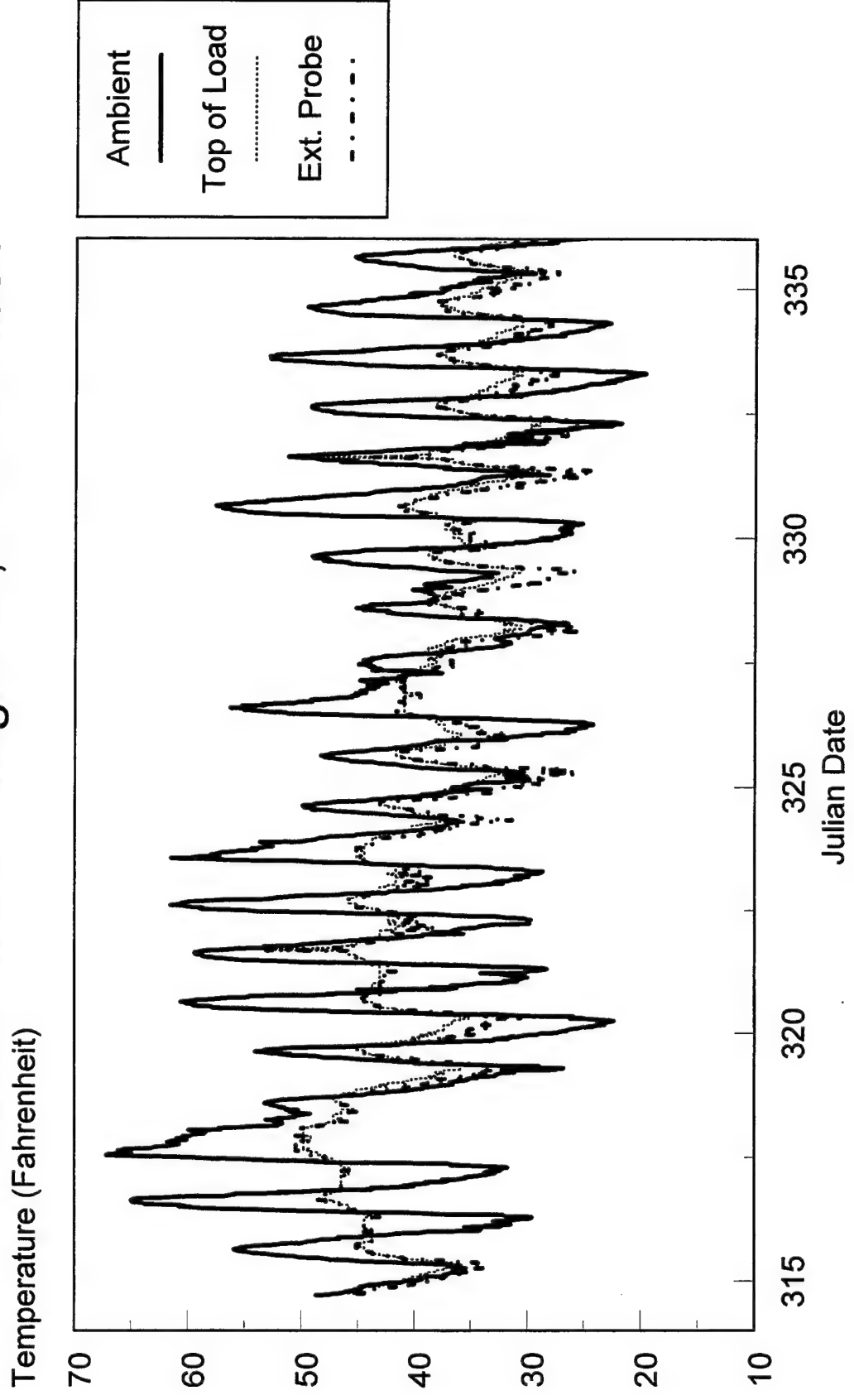
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC: A974



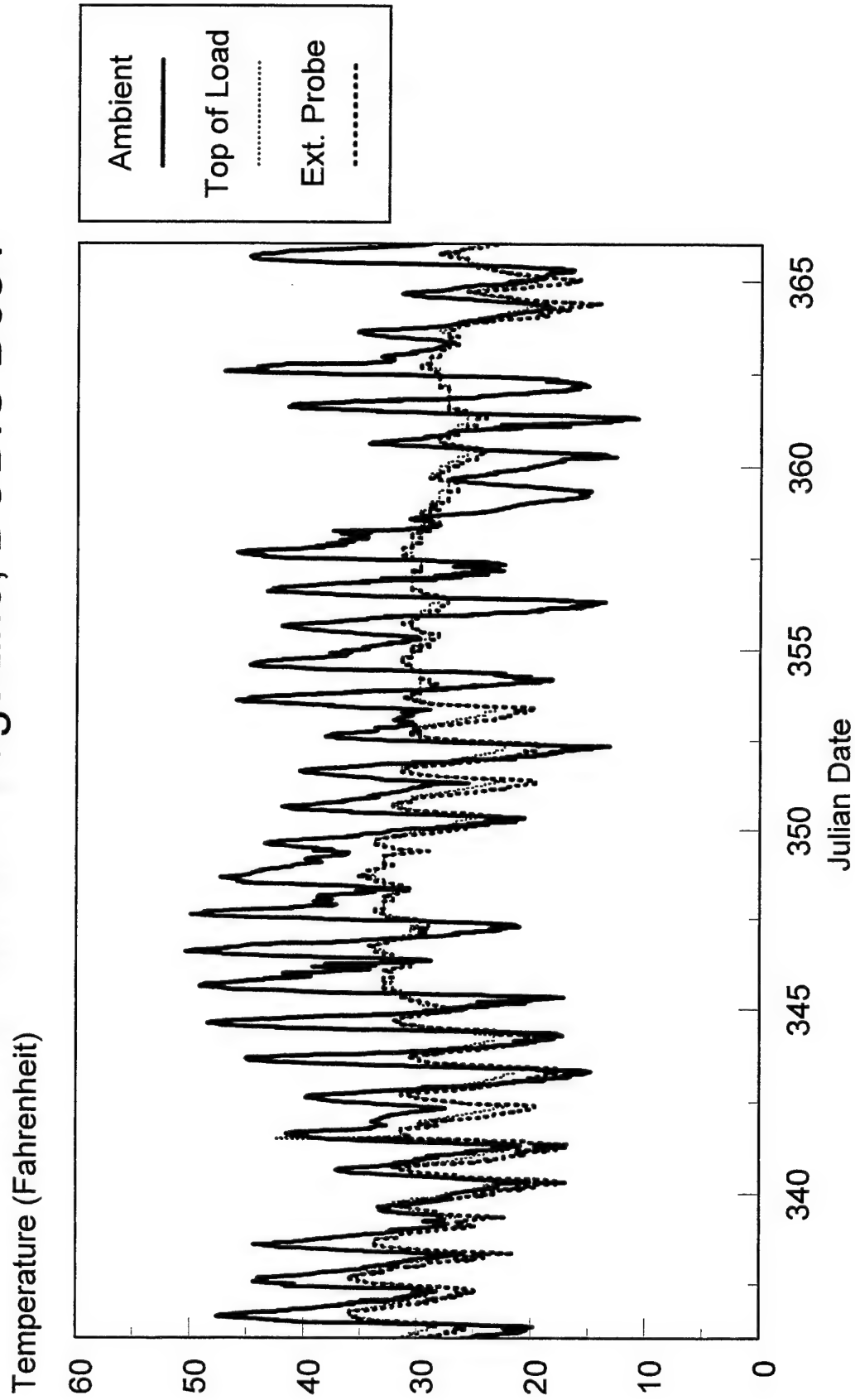
1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC: A974



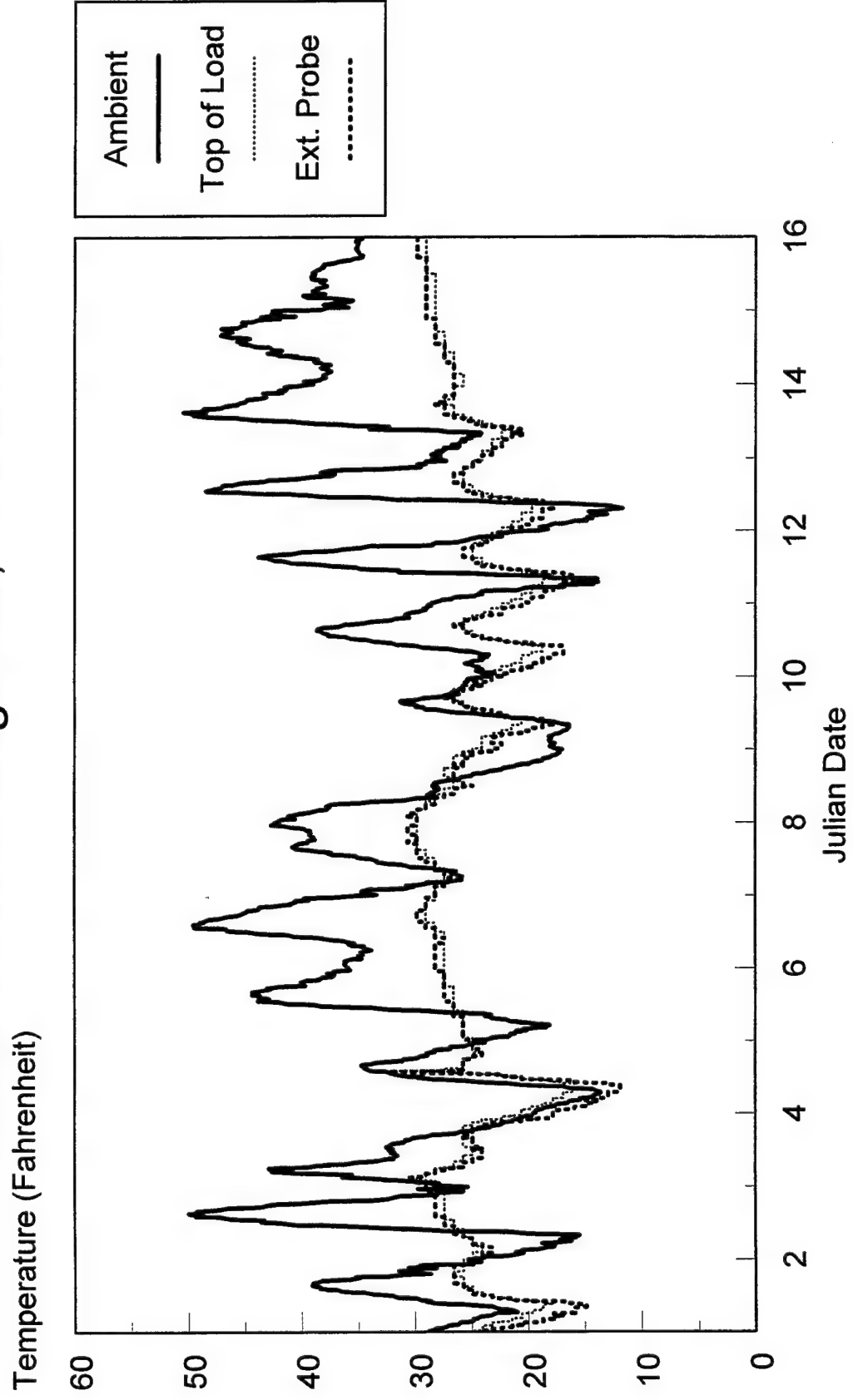
1995 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC D684



1995 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC D684

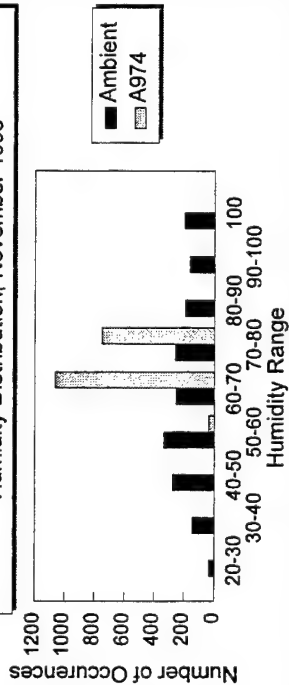


1996 Ammunition Storage Monitoring
2nd ID, South Korea
Above Ground Magazine, DODIC D684



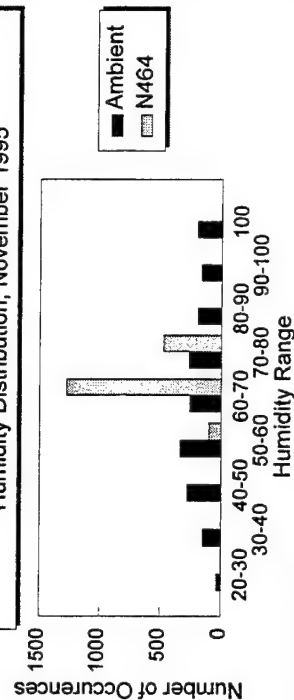
Above Ground Magazine, 2nd ID

Humidity Distribution, November 1995



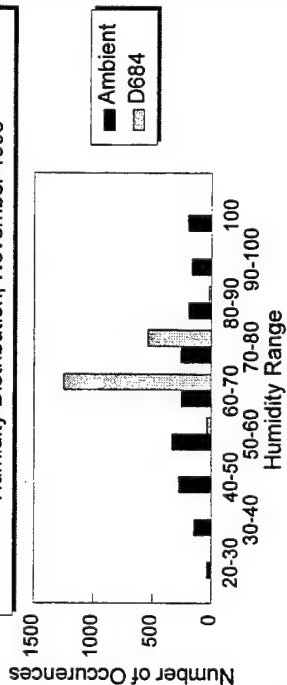
Above Ground Magazine, 2nd ID

Humidity Distribution, November 1995



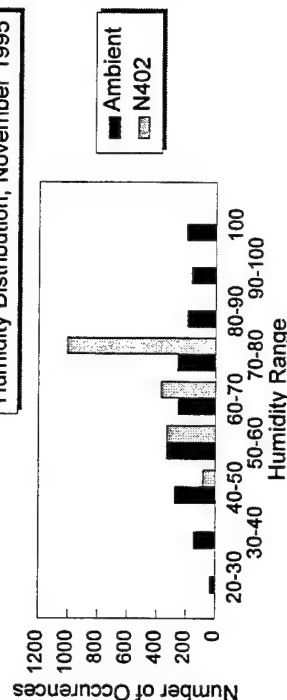
Above Ground Magazine, 2nd ID

Humidity Distribution, November 1995



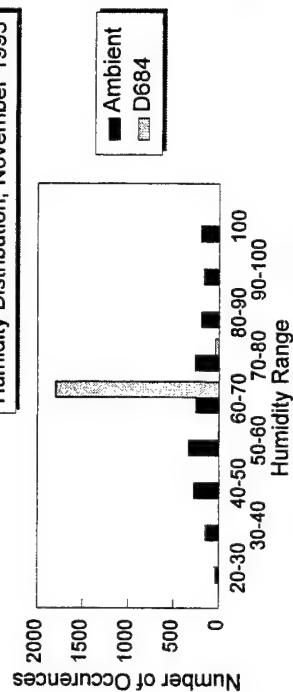
Quonset Hut, 2nd ID

Humidity Distribution, November 1995



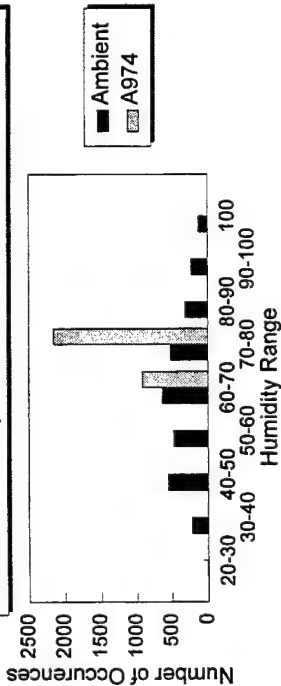
Igloo, 2nd ID

Humidity Distribution, November 1995



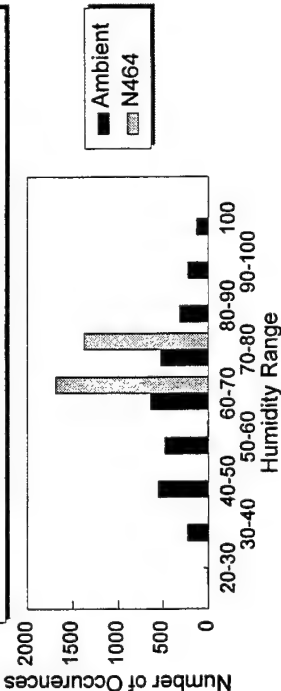
Above Ground Magazine, 2nd ID

Humidity Distribution, December 1995



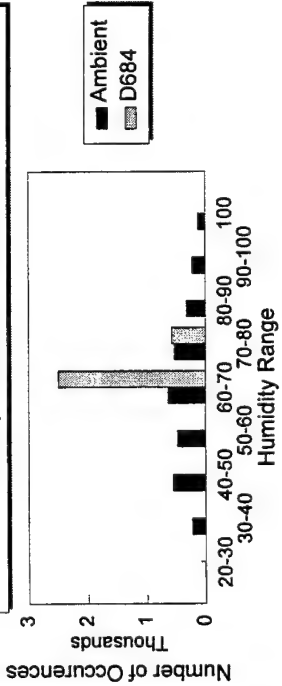
Above Ground Magazine, 2nd ID

Humidity Distribution, December 1995



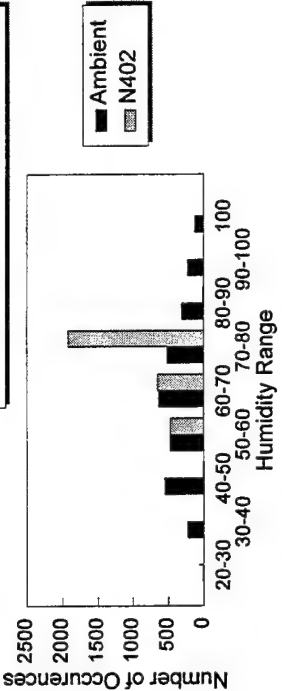
Above Ground Magazine, 2nd ID

Humidity Distribution, December 1995



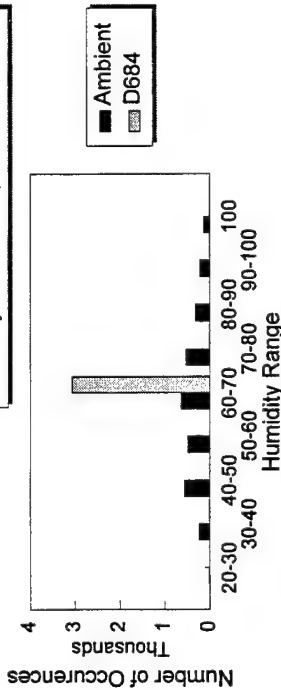
Quonset Hut, 2nd ID

Humidity Distribution, December 1995



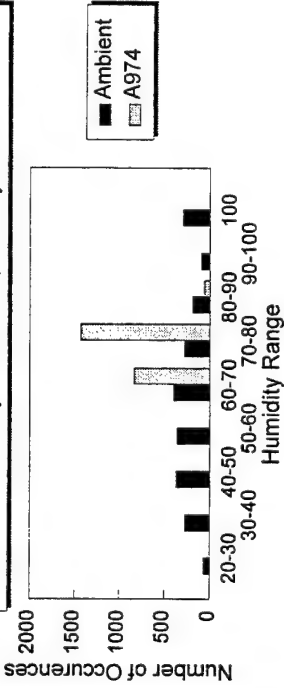
Igloo, 2nd ID

Humidity Distribution, December 1995



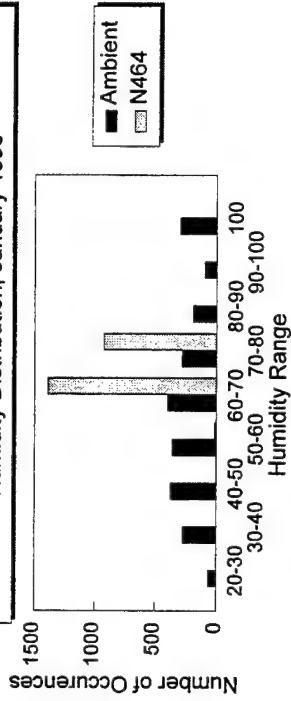
Above Ground Magazine, 2nd ID

Humidity Distribution, January 1996



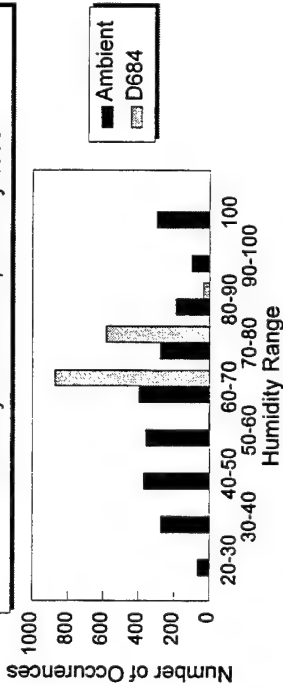
Above Ground Magazine, 2nd ID

Humidity Distribution, January 1996



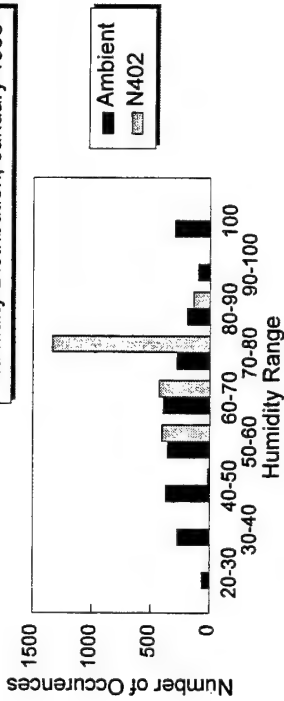
Above Ground Magazine, 2nd ID

Humidity Distribution, January 1996



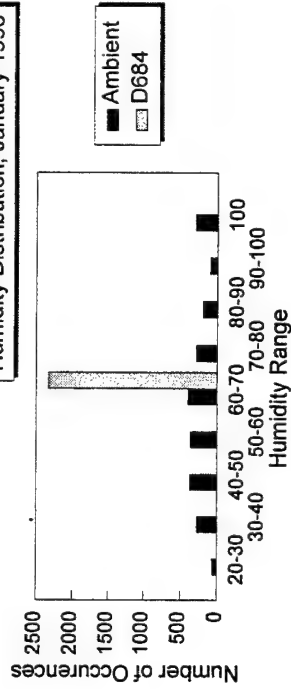
Quonset Hut, 2nd ID

Humidity Distribution, January 1996



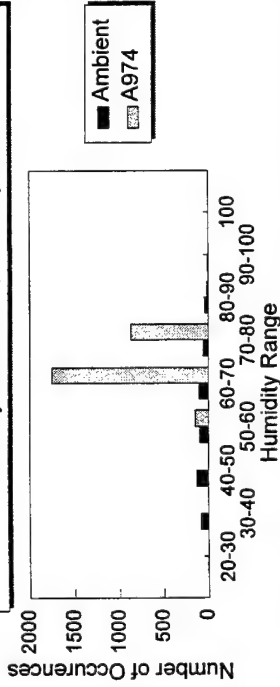
Igloo, 2nd ID

Humidity Distribution, January 1996



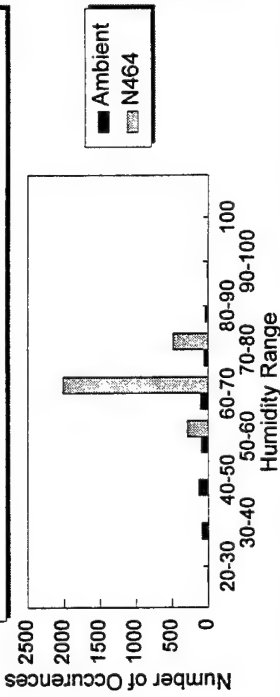
Above Ground Magazine, 2nd ID

Humidity Distribution, February 1996



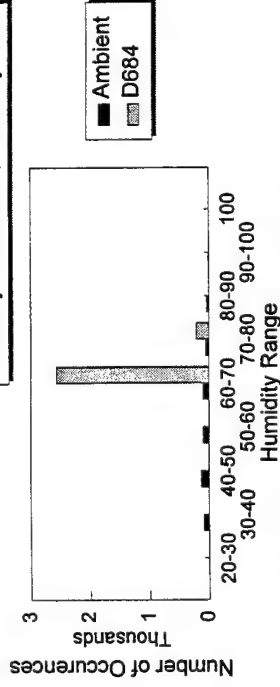
Above Ground Magazine, 2nd ID

Humidity Distribution, February 1996



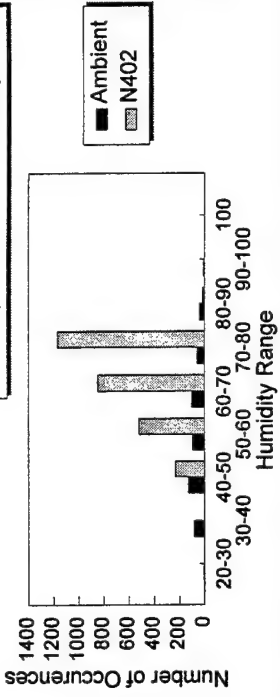
Igloo, 2nd ID

Humidity Distribution, February 1996



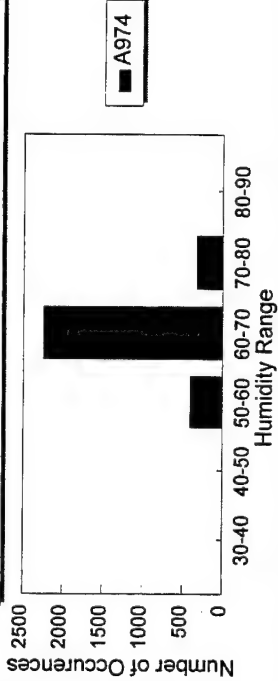
Quonset Hut, 2nd ID

Humidity Distribution, February 1996



Above Ground Magazine, 2nd ID

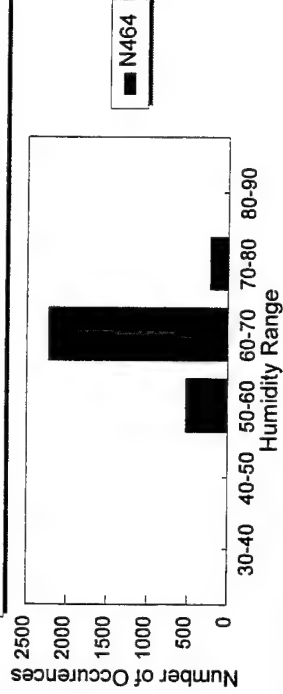
Humidity Distribution, March 1996



A974

Above Ground Magazine, 2nd ID

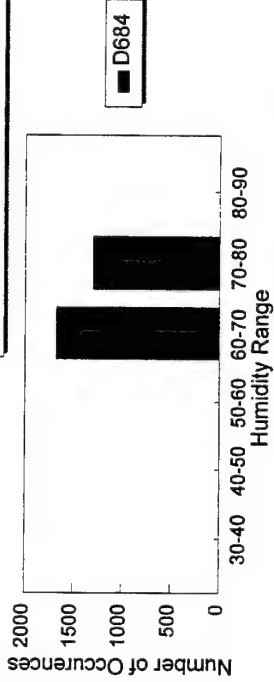
Humidity Distribution, March 1996



N464

Igloo, 2nd ID

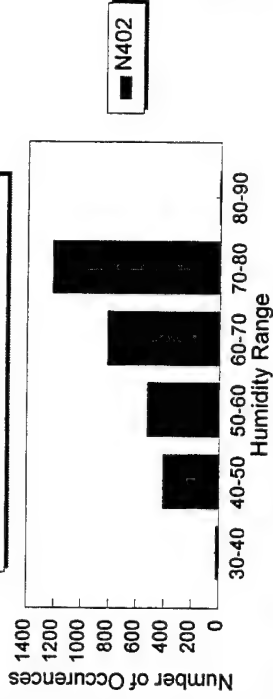
Humidity Distribution, March 1996



D684

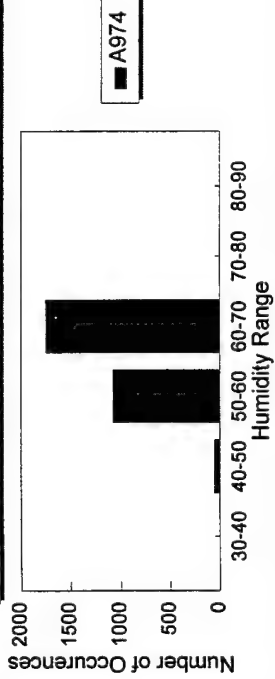
Quonset Hut, 2nd ID

Humidity Distribution, March 1996

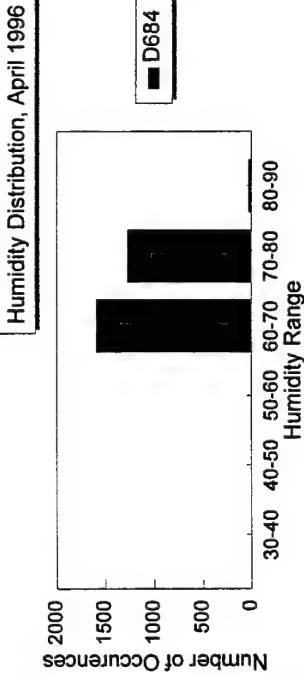


N402

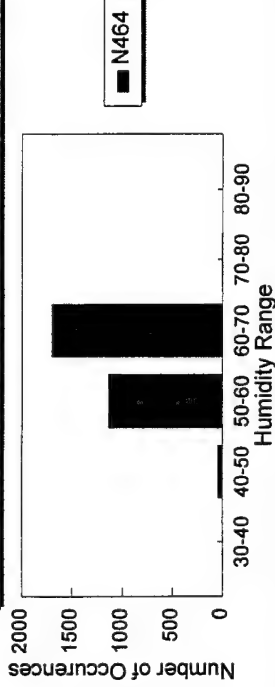
Above Ground Magazine, 2nd ID Humidity Distribution, April 1996



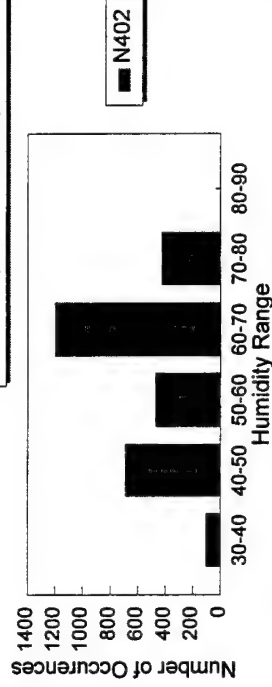
Igluo, 2nd ID Humidity Distribution, April 1996



Above Ground Magazine, 2nd ID Humidity Distribution, April 1996

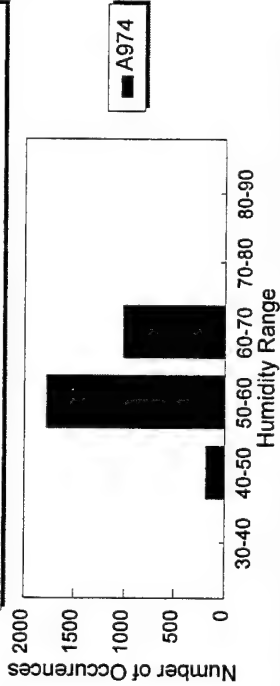


Quonset Hut, 2nd ID Humidity Distribution, April 1996



Above Ground Magazine, 2nd ID

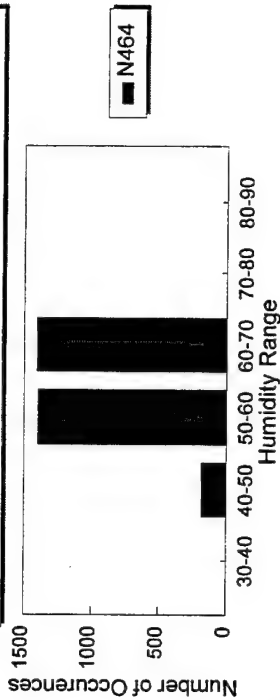
Humidity Distribution, May 1996



A974

Above Ground Magazine, 2nd ID

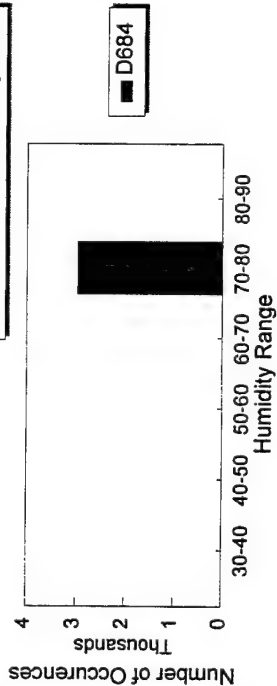
Humidity Distribution, May 1996



N464

Igloo, 2nd ID

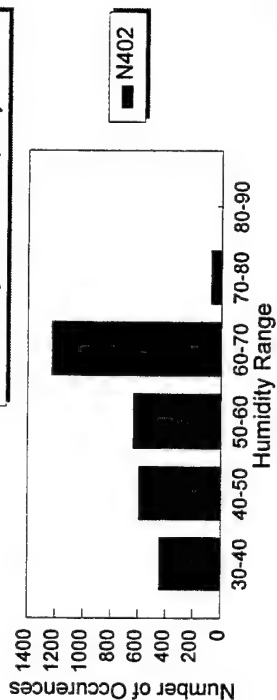
Humidity Distribution, May 1996



D684

Quonset Hut, 2nd ID

Humidity Distribution, May 1996



N402

PART 7

APPENDIX

AD #2

Temperature Distribution Feb '96

	Ambient	AG Mag	Igloo
10-20	22.099	2.0873	0.1308
20-30	51.667	38.738	15.701
30-40	18.785	47.594	82.468
40-50	7.7348	10.864	1.7
50-60	0	0.6916	0
60-70	0	0.0251	0

Temperature Distribution Mar '96

	Ambient		
20-30	No Data	3.1782	0.0941
30-40		37.046	50.427
40-50		55.063	49.479
50-60		4.6149	0
60-70		0.0982	0

Temperature Distribution Apr '96

	Ambient		
30-40	No Data	8.5489	1.5184
40-50		41.582	72.473
50-60		32.293	24.15
60-70		15.34	1.8583
70-80		2.0746	0
80-90		0.1613	0

Temperature Distribution for May '96

	Ambient		
30-40	0.0658	0	0
40-50	6.9124	0.2401	0
50-60	36.076	30.466	61.958
60-70	33.706	54.114	38.042
70-80	18.631	13.847	0
80-90	4.6083	1.2784	0
90-100	0	0.054	0

Temperature Distribution for Jun '96

	Ambient		
40-50	0.1398	0	0
50-60	4.8917	0.1525	0
60-70	58.001	50.416	91.568
70-80	27.324	43.796	8.4323
80-90	9.3641	4.9298	0
90-100	0.2795	0.7052	0

Temperature Distribution for Jul '96

	Ambient		
50-60	4.2339	0	0
60-70	32.93	30.26	47.043
70-80	31.989	32.576	47.513
80-90	21.909	31.219	5.4435
90-100	8.9382	5.0037	0
100-110	0	0.9409	0

Temperature Distribution for Aug '96

	Ambient		
60-70	23.79	4.5213	2.1057
70-80	45.228	44.089	89.718
80-90	21.169	44.755	8.1765
90-100	9.8118	5.6333	0
100-110	0	1.002	0

Temperature Distribution for Sep '96

	Ambient		
50-60	10.643	1.3944	0.0463
60-70	57.428	48.994	65.14
70-80	24.612	44.672	34.814
80-90	7.3171	4.6312	0
90-100	0	0.3092	0

Temperature Distribution for Oct '96

40-50	No Data	0.0855	0
50-60		9.6957	3.7436
60-70		44.813	46.918
70-80		40.634	49.339
80-90		4.5332	0.0672
90-100		0.2383	0

Temperature Distribution for Nov '96

	Ambient		
30-40	12.246	1.0946	0.0887
40-50	40.143	28.007	8.2956
50-60	35.544	47.543	68.778
60-70	12.067	22.391	22.837
70-80	0	0.9653	0

Temperature Distribution for Dec '96

	Ambient		
20-30	4.7043	0.2315	0
30-40	37.097	35.951	8.8239
40-50	32.527	54.193	77.144
50-60	19.456	9.4459	14.032
60-70	6.2164	0.1792	0

AD #2

Temperature Distribution for Jan '97

	Ambient		
10-20	0.504	0	0
20-30	8.703	2.3297	0.2957
30-40	49.16	65.177	20.356
40-50	33.938	30.388	78.945
50-60	7.1909	2.1057	0.4032
60-70	0.504	0	0

Temperature Distribution for Feb '97

	Ambient		
20-30	5.3943	0.0413	0
30-40	32.664	38.323	12.269
40-50	33.185	43.953	83.854
50-60	21.466	16.08	3.8765
60-70	5.9152	1.5708	0
70-80	1.3765	0.0331	0

Temperature Distribution for Mar '97

	Ambient		
20-30	0.2017	0	0
30-40	6.1849	0.4258	0
40-50	29.378	22.476	16.289
50-60	37.076	64.93	83.711
60-70	21.916	11.145	0
70-80	5.2437	1.0233	0

Temperature Distribution for Apr '97

	Ambient		
40-50	5.9354	1.2921	0.1389
50-60	36.723	35.619	51.746
60-70	27.768	42.5	47.115
70-80	22.631	17.673	0.9998
80-90	6.5602	2.8426	0
90-100	0.3818	0.0733	0

Temperature Distribution for May '97

	Ambient		
50-60	6.4539	0.2232	0
60-70	24.774	21.283	63.659
70-80	39.348	55.336	34.037
80-90	23.872	20.271	1.3604
90-100	5.5517	2.4706	0.5275
100-110	0	0.4167	0.4164

AD #2

Temperature Distribution Feb '96

Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	B-437	Ext. Pro	B-239	Ext. Pro	B-184	Ext. Pro	B-555	Ext. Pro
10-20	40	18	68	50	10	92	20	52	20	82	58	90	72	32	16	0	0	0
20-30	93	744	851	925	1005	970	758	640	826	1085	830	1196	1250	1243	1225	46	156	288
30-40	34	1331	964	1106	1244	1121	1319	1255	1347	1152	1265	1005	967	1064	1096	2303	2291	2159
40-50	14	332	470	336	188	216	350	478	254	128	282	156	158	108	110	98	0	0
50-60	0	22	86	30	0	48	0	22	0	0	12	0	0	0	0	0	0	0
60-70	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Temperature Distribution Mar '96

Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	B-437	Ext. Pro	B-239	Ext. Pro	B-184	Ext. Pro	B-555	Ext. Pro
20-30	No Data	44	211	145	0	182	70	76	32	146	86	116	70	52	14	0	0	0
30-40	901	772	940	1370	999	910	779	955	955	1198	895	1347	1561	1710	1740	969	1471	1713
40-50	1868	1522	1670	1497	1664	1821	1924	1886	1886	1551	1868	1478	1346	1215	1223	2008	1506	1264
50-60	164	434	222	110	132	176	198	104	104	82	128	36	0	0	0	0	0	0
60-70	0	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Temperature Distribution Apr '96

Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	B-437	Ext. Pro	B-239	Ext. Pro	B-184	Ext. Pro	B-555	Ext. Pro
30-40	No Data	178	310	230	180	326	192	190	182	268	216	296	292	214	184	0	14	12
40-50	1070	822	926	1207	1058	1085	954	1188	1188	1251	1102	1266	1372	1651	1727	1894	2166	2114
50-60	1000	810	832	908	892	1056	1108	976	976	862	992	814	732	630	598	872	586	640
60-70	432	610	600	449	388	405	438	392	392	377	412	372	370	271	257	0	0	0
70-80	86	178	156	22	102	28	76	28	28	8	44	18	0	0	0	0	0	0
80-90	0	36	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Temperature Distribution for May '96

Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	Ext. Probe	B-239	Ext. Probe	B-555	Ext. Pro
30-40	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40-50	105	0	10	2	0	10	0	7	4	5	2	0	0	0	0
50-60	548	451	449	488	392	503	409	479	421	453	405	626	641	1088	1087
60-70	512	800	568	811	949	706	896	823	829	879	880	875	867	431	431
70-80	283	258	358	214	174	288	210	207	179	181	231	7	0	0	0
80-90	70	0	129	0	0	8	0	0	76	0	0	0	0	0	0
90-100	0	0	1	0	0	0	0	0	8	0	0	0	0	0	0

Temperature Distribution for Jun '96

Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	Ext. Probe	B-239	Ext. Probe	B-555	Ext. Pro
40-50	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50-60	70	0	7	0	0	6	0	6	3	2	0	0	0	0	0
60-70	830	733	650	750	691	760	669	739	560	685	656	1043	1069	1431	1431
70-80	391	658	497	650	719	595	734	658	538	717	740	388	362	0	0
80-90	134	40	255	31	21	70	28	28	241	27	35	0	0	0	0
90-100	4	0	22	0	0	0	0	0	89	0	0	0	0	0	0

Temperature Distribution for Jul '96

Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	Ext. Probe	B-239	Ext. Probe	B-555	Ext. Pro
50-60	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60-70	490	463	368	456	418	490	402	489	364	483	445	575	569	758	773
70-80	476	430	476	492	494	433	561	476	392	455	446	677	676	730	715
80-90	326	531	335	504	558	454	502	499	396	535	560	236	243	0	0
90-100	133	64	251	36	18	111	23	24	240	15	37	0	0	0	0
100-110	0	0	58	0	0	0	0	0	96	0	0	0	0	0	0

Temperature Distribution for Aug '96

Temperature Distribution for Aug '96														
Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	B-239	Ext. Probe	B-555	Ext. Probe
60-70	354	41	88	97	15	4	4	58	104	54	167	93	1	0
70-80	673	631	573	672	637	626	660	514	608	631	1038	1075	1457	1473
80-90	315	737	487	669	808	808	680	549	738	758	283	320	30	15
90-100	146	79	284	50	28	50	40	261	35	45	0	0	0	0
100-110	0	0	56	0	0	0	0	106	2	0	0	0	0	0

	Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	B-239	Ext. Probe	B-555	Ext. Pro
50-60	48	2	53	13	0	54	0	38	8	24	14	15	2	0	0
60-70	259	629	604	762	688	799	574	703	513	701	635	1157	1111	920	785
70-80	111	756	468	663	753	585	844	687	576	690	789	269	328	521	656
80-90	33	54	308	3	0	3	23	13	307	20	3	0	0	0	0
90-100	0	0	8	0	0	0	0	0	37	4	0	0	0	0	0

	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	B-239	Ext. Probe	B-555	Ext. Pro
40-50	0	7	0	0	7	0	0	0	0	0	0	0	0	0
50-60	108	199	125	91	206	80	165	117	164	128	204	167	0	0
60-70	612	507	712	774	716	617	610	500	669	649	969	946	603	544
70-80	714	532	629	610	542	750	673	586	612	688	315	375	882	944
80-90	54	229	22	13	17	41	40	260	43	23	0	0	3	0
90-100	0	14	0	0	0	0	0	25	0	0	0	0	0	0

	Ambient	B-105	B-133	B-135	B-163	B-177	B-182	B-313	B-315	B-335	B-303	B-239	Ext. Probe	B-555	Ext. Pro
30-40	205	4	30	10	12	57	0	0	23	35	0	45	0	0	0
40-50	672	442	649	604	628	855	0	604	0	732	0	800	810	0	17
50-60	595	1318	906	1195	1179	1001	126	193	1186	1100	170	816	1104	1582	1518
60-70	202	499	604	466	455	363	458	386	474	395	418	317	358	92	733
70-80	0	7	86	1	1	1	19	17	61	8	8	0	0	0	0

	Ambient	B-105	B-133	B-135	B-163	B-177	B-315	B-215	B-335	B-437	B-239	Ext. Pro	B-184	Ext. Pro	B-555	Ext. Pro
120-30	140	0	6	0	0	30	8	18	0	0	0	0	0	0	0	0
30-40	1104	694	1080	916	872	1385	861	1135	1385	1303	1383	1313	0	0	0	0
40-50	968	1806	1210	1716	1958	1459	1679	1453	1641	1641	1593	1663	1702	2794	2538	2782
50-60	579	476	656	344	146	102	428	32	32	32	0	0	1274	182	438	194
60-70	185	0	24	0	0	0	0	24	0	0	0	0	0	0	0	0

[illegible]

AD #2

Temperature Distribution for Feb '97

	Ambient	B-105	B-133	B-135	B-163	B-177
20-30	145	0	4	0	0	6
30-40	878	744	940	900	866	1181
40-50	892	1400	768	1227	1411	1128
50-60	577	502	808	507	403	351
60-70	159	42	160	54	8	22
70-80	37	0	8	0	0	0

	B-315	B-215	B-335
B-437	0	0	0
	1207	950	932
	1218	1507	1026
	263	231	636
	0	0	94
	0	0	0

	B-239	Ext. Pro	B-184	Ext. Pro	B-555	Ext. Pro
	0	0	0	0	0	0
	1551	1649	0	0	0	0
	948	870	2458	2670	2629	2643
	189	169	230	18	59	45
	0	0	0	0	0	0
	0	0	0	0	0	0

Temperature Distribution for Mar '97

	Ambient	B-105	B-133	B-135	B-163	B-177
20-30	6	0	0	0	0	0
30-40	184	0	48	0	0	54
40-50	874	554	660	570	538	816
50-60	1103	1951	1389	1845	2267	1873
60-70	652	470	690	550	170	232
70-80	156	0	188	10	0	0

	B-315	B-215	B-335
B-437	0	0	0
	6	0	6
	788	590	548
	2041	2325	1673
	140	60	672
	0	0	76

	B-239	Ext. Pro	B-184	Ext. Pro	B-555	Ext. Pro
	0	0	0	0	0	0
	0	0	0	0	0	0
	954	992	120	433	362	516
	2021	1983	2855	2542	2613	2459
	0	0	0	0	0	0
	0	0	0	0	0	0

Temperature Distribution for Apr '97

	Ambient	B-105	B-133	B-135	B-163	B-177
40-50	171	171	28	18	14	32
50-60	1058	1058	797	911	922	1156
60-70	800	800	1054	1162	1375	1223
70-80	652	652	724	732	562	448
80-90	189	189	270	58	8	22
90-100	11	11	8	0	0	0

	B-315	B-215	B-335
B-437	24	8	20
	1140	1080	737
	1407	1527	1182
	310	266	752
	0	0	190
	0	0	0

	B-239	Ext. Pro	B-184	Ext. Pro	B-555	Ext. Pro
	20	20	0	0	0	0
	1434	1570	1123	1854	1304	1602
	1289	1159	1758	1027	1563	1279
	136	130	0	0	14	0
	0	0	0	0	0	0
	0	0	0	0	0	0

Temperature Distribution for May '97

	Ambient	B-105	B-133	B-135	B-163	B-177
50-60	93	0	12	0	0	18
60-70	357	294	268	304	279	371
70-80	567	842	612	734	978	800
80-90	344	296	402	350	274	344
90-100	80	10	136	42	16	14
100-110	0	0	12	10	10	12

	B-315	B-215	B-335
B-437	0	0	0
	313	239	212
	1000	1036	644
	242	274	496
	4	8	90
	0	0	0

	B-239	Ext. Pro	B-184	Ext. Pro	B-555	Ext. Pro
	0	0	0	0	0	0
	580	644	777	1143	957	1065
	790	742	608	242	484	376
	46	32	32	34	0	0
	12	12	14	12	0	0
	12	10	10	10	0	0